

A NEW ORCHARD and Garden :

OR

The best way for planting, grafting, and to make
any ground good, for a rich Orchard : Particularly in the North,
and generally for the whole kingdome of England, as in nature,
reason, situation, and all probabilitie, may and doth appeare.

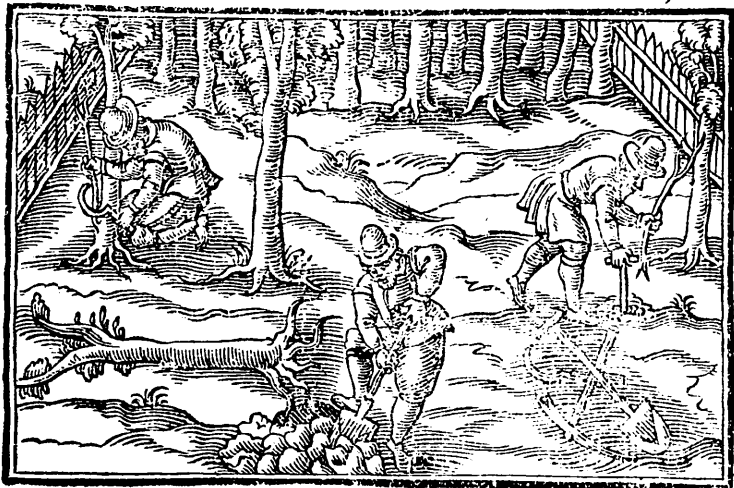
With the Country Housewives Garden for herbes of common vse, their
vertues, seasons, profits, ornaments, varietie of knots, models for trees, and
plots for the best ordering of Grounds and Walkes.

AS ALSO

The Husbandry of Bees, with their severall uses and annoyances, all being the
experience of 48. yeeres labour, and now the second time corrected and
much enlarged, by *William Lawson.*

Whereunto is newly added the Art of propagating Plants, with the true ordering
of all manner of Fruits, in their gathering, carrying home, and preservation. *By J. Harward.*

Skill and paines bring fruitfull gaines.



Nemo sibi parat.

Printed at London by I. H. for ROGER JACKSON, and are to be sold at his
shop neere Fleet-street Conduit. 1623.



TO THE RIGHT
WORSHIPFULL,

SIR HENRY BELOSSES
Knight and Baronet.

Worthy Sir,



Hen in many yeeres by long experience I had furnished this my Northerne Orchard and Countrey Garden with needfull plants and vsfull herbes, I did impart the view thereof to my friends, who resorted to me to conferre in matters of that nature, they did see it, and seeing it desired, and I must not denie now the publishing of it (which then I allotted to my priuate delight) for the publike profit of others. Wherefore, though I could pleade custome the ordinary excuse of all Writers, to chuse a Patron and Protector of their Workes, and so shroud my selfe from scandall vnder your honourable fauour, yet haue I certaine reasons to excuse this my presumption: First, the many courtesies

The Epistle Dedicatory.

testies you haue vouchsafed me. Secondly, your delightfull skill in matters of this nature. Thirdly, the profit which I receiued from your learned discourse of Fruit-trees. Fourthly, your animating and assisting of others to such endeouours. Last of all, the rare workes of your owne in this kinde : all which to publish vnder your protection, I haue aduentured (as you see.) Vouchsafe it therefore entertainment, I pray you, and I hope you shall finde it not the vnprofitablest seruant of your retinue : for when your serious employments are ouerpassed, it may interpose some commoditie, and raise your contentment out of varietie.

Your Worships

most bounden,

WILLIAM LAWSON.



THE PREFACE

to all well minded.



Art hath her first originall out of experience, which therefore is called the Schoole-mistresse of fooles, because she teacheth infallibly, and plainly, as drawing her knowledge out of the course of Nature, (which neuer failes in the generall) by the senses, feelingly apprehending, and comparing (with the helpe of the minde) the workes of nature; and as in all other things naturall, so especially in Trees : for what is Art more than a provident and skilfull Collectrix of the faultis of Nature in her particular workes, apprehended by the senses ? As when good ground naturally brings forth thistles, trees stand too thicke, or too thin, or disorderly, or (without dressing) put forth vnprofitable suckers, and such like. All which, and a thousand more, Art reformeth, being taught by experience : and therefore must we count that Art the surest, that stands vpon experimentall rules, gathered by the rule of reason (not conceit) of all other rules the surest.

Whereupon haue I of my meere and sole experience, without respect to any former written Treatise, gathered these rules, and set them downe in writing, not daring to hide the least talent giuen me of my Lord and Master in Heauen : neither is this iniurious to any, though it differ from the common opinion

The Preface.

in diuers points, to make it knowne to others, what good I haue found out in this facultie by long triall and experience. I confesse freely my want of curious skill in the Art of planting. And I admire and praise Plinie, Aristotle, Virgil, Cicero, and many others for wit and iudgement in this kinde, and leaue them to their times, manner, and seuerall Countries.

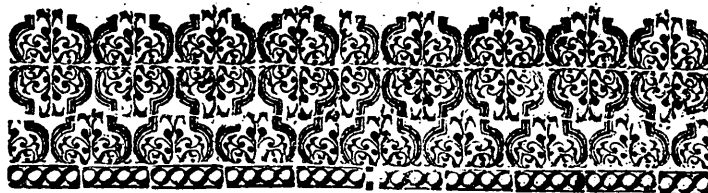
I am not determin'd (neither can I worthily) to set forth the praises of this Art: how some, and not a few, euen of the best, haue accounted it a chiefe part of earthly happinesse, to haue faire and pleasant Orchards, as in Hesperia and The Italy, how all with one consent agree, that it is a chiefe part of Husbandry (as Tully de senectute) and Husbandry maintaines the world; how ancient, how profitable, how pleasant it is, how many secrets of nature it doth containe, how loned, how much practis'd in best places, and of the best: This hath already beene done by many. I only aime at the common good. I delight not in curious conceits, as planting and grafting with the root upwards, inoculating Roses on Thornes, and such like, although I haue heard of diuers, proued some, and read of moe.

The Stationer hath (as being most desirous with me, to further the common good) bestowed much cost and care in hauing the Knots and Models by the best Artizan cut in great varietie, that nothing might be any way wanting to satisfie the curious desire of those that would make vse of this booke.

And I shew a plaine and sure way of planting, which I haue found good by 48. yeeres (and moe) experience in the North part of England: I preiudicate and enuie none, wishing yet all to abstaine from maligning that good (to them unknowne) which is well intended. Farewell.

Thine, for thy good,

W. L.



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THE BEST, SUREST, AND READIEST WAY TO

make a good Orchard and Garden.

CHAP. I.

Of the Gardener, and his Wage.



Whoever desireth and endeavoureth to have a
 pleasant, and profitable Orchard, must (if he be
 able) provide himselfe of a fruntierer, religi-
 ous, honest, skilfull in that faculty, and there-
 fore painfull: By religious, I meane (be-
 cause many thinke religion but a fashion of ser-

Religi-
ous.

uice to goe to Church) maintaining, and cherishing things re-
 ligious: as Schooles of learning, Churches, Tythes, Church-
 goods, and rights: and about all things, Gods word, and the
 Preachers thereof, so much as he is able, praising, prayers,
 comfortable conference, mutual instruction to edifie, almes, and
 other workes of Charity, and all out of a good conscience.

Honestie in a Gardener, will grace your Garden, and all your
 house, and helpe to stay thine idle seruicemen, giuing offence
 to none, nor casting your name into question by dishonest acts,
 nor infecting your family by euill counsell or examples: For there
 is no plague so infectious as Idleness and knaueserie, he will not
 purloine your profit, nor hinder your pleasures.

Honest.

Concerning his skill, he must not be a scholler, to make
 shew of, nor take in hand that, which he cannot performe, espe-
 cially in so weighty a thing as an Orchard: than the which,
 there can be no humane thing more excellent, either for plea-

Skilfull.

sure or profit, as shall (God willing) be proued in the treatise following. And what an hinderance shall it be, not onely to the owner, but to the common good, that the unspeakable benefit of many hundred peeres shall be lost, by the audacious attempt of an unskillfull or worse.

Painfull.

The Gardner had not need be an idle, or lazie Lubber, for so your Orchard being a matter of such moment, will not permit you here will ever be same thing to doe. Weedes are alwaies growing. The great mother of all living Creatures, the Earth, is full of seed in her bowels, and any stirring gives them heat of Sunne, and being laid naked day, they grow: Potowles worke daily, though not alwaies alike. Winter herbes at all times will grow (except in extreme frost.) In Winter your young trees and herbes shoulde be lightened of snow, and your Allyes cleansed: drifts of snow will set Dore, Vares, and Conyes, and other noysome beasts ouer your walles and hedges, into your Orchard. When Summer cloathes your borders with greene and peckled colours, your Gardner must dress his hedges, and cut the wozkes: watch his Was, and hine them: distill his Roses, and other herbes. Now begins Summer Fruit to ripe, and craue your hand to pull them. If he haue a Garden (as he must need) to keepe, you must needs allow him good helpe, to end his labours which are endlesse, for no one man is sufficient for these things.

Wages.

Such a Gardner as will conscionably, quietly and patiently, trauell in your Orchard, God shall crowne the labors of his hands with ioyfullnesse, and make the liquid drop fatnesse vpon your trees, he will prouide your loue, and earne his wages, and his belonging to his place: The house being serued, fallen fruit, superfluity of herbes, and flowers, seedes, grasse, sets, and befores other offall, that fruit which your beautifull hand shall reward him withall, will much augment his wages, and the profit of your Was will pay you backe againe.

If you be not able, nor willing to hire a Gardner, keepe your profits to your selfe, but then you must take all the paines: And for that purpose (if you want this faculty) to instruct you, haue I undertaken these labours, and gathered these Rules, Vnt chiefly respecting my countries good.

CHAP.

CHAP. II.

Of the Soyle.



Kindes of trees.

Watt-Trees most common, and mettest for our northerne Countries: (as Apples, Peares, Cherries, Filberds, redden & white Pluimms, Damsons, and Bulles,) for we meddle not with Apricockes nor Peaches, nor scarcely with Quinces, which will not like in our cold parts, vntlesse they be helped with some reffer of Sunne, or other like meanes, nor with bushes, bearing berries, as Warberies, Gosberries, or Grosers, Raspberries, and such like, though the Warbery be wholesome, and the tree may be made great: doe require (as all other trees doe) a blacke, fat, mellow, cleane and well tempered soyle, wherein they may gather plenty of good sap. Some thinke the Wasell would haue a charitable rocke, and the Sallow, and Eller a waterish marish. The Soyle is made better by deluing, and other meanes, being well melted, and the wildnesse of the earth and weeds (for euery thing subject to man, & seruing his vse, not well ordered, is by nature subject to the curse), is killed by frosts and brought, by fallowing and laying on heapes, and if it be cold earth, with burning.

Soyle.

Barren Earth.

If your ground be barren (for some are forced to make an Orchard of barren ground) make a pit three quarters deepe, and two yards wide, and round in such places where you would set your trees, and fill the same with fat, pure, and mellow earth, one whole foot higher than your Soyle, and therein set your Plant. For who is able to manure an whole Orchard plot, if it be barren? But if you determine to manure the whole site, this is your way: Digge a trench halfe a yarde deepe, all along the lower (if there be a lower) side of your Orchard plot, casting vp all the earth on the inner side, and fill the same with good moist, hot, and tender mucke, and make such another Trench, and fill the same as the first, and so to the third, and so throughout your ground. And by this meanes your plot shall be fertile for your life. But be sure you set your trees, neither in dung nor barren earth.

Plaine.

Your ground must be plaine, that it may receiue, and keepe

Moyft.

kepe moyfture, not onely the raine falling thereon, but alfo wa-
ter caft vpon it, or descending from higher ground by Runnes,
Conduits, &c. For I account moyfture in Summer very need-
full in the Soyle of trees, and brought in Winter. Provided,
that the ground neither be haggie, nor the inundation be past
hedges at any time, and but thuse in the whole Summer, and so
off in Winter. Therefore if your plot be in a Banke, or bank
declent, make trenches by degrees, steepe, shallow, and high
like, so as the water may be stated from passage. And if too
much water be any hinderance to your walkes (for by walkes
doe wilt keepe an Orchard, and an Orchard them:) raise
your walkes with earth first, and then with stones, as biggs as
walke stones, and steepe, with gravel. In Summer you had not
doubt to which water from heauen, either to hurt the health of
your trees, or of your trees. And if questioning molett you af-
ter the day, avoid it then by deepe trenching.

Some for this purpose digge the Soyle of their Orchard to re-
ceive moyfture which I cannot approve: for the roots with dig-
ging are brent, and hurt, and especially being digged by some
unkittfull servant: For the Carpenter cannot doe all himselfe.
And moreover, the roots of Apples and Peares, being laid nere
day, with the heat of the Sunne, will put forth suckers, which
are a great hinderance, and sometimes, with euill guiding, the
destruction of trees, while the delusing be very shallow, and the
ground laid verie leuell againe. Cherries and plummes without
detracting, will hardly or neuer (after twenty yeares) be kept
from such suckers, nor ashes.

Grasse.

Grasse also is thought needfull for moyfture, so you let it not
touch the roots of your trees: for it will breake moett, and the
boall of your tree nere the earth would haue the comfort of the
sunne and ayre.

Some take their ground to bee too moist when it is not so, by
reason of waters standing thereon, for except in foure marshes,
springs, and continuall ouer-flowings, no earth can be too moist.
Sandy and fat earth will auoid all water falling thereon. In-
deed a stiff clay will not receiue the water, and therefore if it
be grasse or plaine, especially hollow, the water will abide,
and it will seeme waterish, when the fault is in the want of
manuring, and other good dressing.

This

This plainnesse which we require, had need be naturall, be-
cause to force an vneuen ground will destroy the fatnesse. For
euery soile hath his crust next day wherein trees and herbes put
their rootos, and whence they draw their sap, which is the best
of the soile, and made fertile with heate and cold, moisture and
drought, and under which, by reason of the want of the said tem-
perature, by the said foure qualities, no tree nor herbe (in a man-
ner) will or can put root. As may bee seene if in digging your
ground, you take the weeds of most growth: as grasse or docks,
(which will grow though they lye vpon the earth bare) yet bury
them under the crust, and they will surely dye and perish, and
become manure to your ground. This crust is not past 15. or
18. inches deepe in good ground, in other grounds less. Here
by appeares the fault of forced plaines, viz. your crust in the
lower parts, is covered with the crust of the higher parts, and
both with worse earth: your heights hauing the crust taken a-
way, are become merely barren: so that either you must force
a new crust, or haue an euill soile. And be sure you leuett, be-
fore you plant, lest you bee forced to remoue, or hurt your
plants by digging, and casting amongst their roots. Your
ground must be cleared as much as you may of stones, and gra-
uell, walke, hedges, bushes and other weeds.

Natural-
ly plain.Crust
of the
earth.

CHAP. III.

Of the Site.



There is no difference, that I find betwixt the ne-
cessity of a good soile, and a good site of an Or-
chard. For a good soile (as is before descri-
bed) cannot want a good site, and if it doe, the
fruit cannot be good, and a good site will much
mend an euill soile. The best site is in low
grounds, (and if you can) nere vnto a Riuer.

Low and
nere a
Riuer.

High grounds are not naturally fat. And if they haue any
fatnesse by mans hand, the very descent in time doth wash it
away. It is with grounds in this case as it is with men in a
common wealth. Such will haue more: and once more, seldom
or neuer rich. The raine will find, and wash, and the wind
will blow fatnesse from the heights to the hollowes, where
it

it will abide, and fatten the earth though it were barren before.

Hence it is, that we haue seldome any plaine grounds, and low, barren: and as seldome any heights naturally fertill. It is unspeakable, what fatnesse is brought to low grounds by Foundations of waters. Neither did I euer know any barren ground in a low plaine by a Riuer side. The goodnesse of the soile in Howl or Hollow-dernes, in *Yorkeshire*, is well knowne to all that know the Riuer Humber, and the huge bulkes of their Cattell there. By estimation of them that haue seene the low grounds in Holland, and Zealand, they farre surpass the most Countries in Europe for fruitfulnessse, and onely because they lye so low. The world cannot compare with *Egypt*, for fertility, so farre as *Nilus* doth ouer-flow his bankes. So that a fitter place cannot be chosen for an Orchard, than a low plaine by a riuer side. For besides the fatnesse which the water brings, if any cloudy mist or raine be stirring, it commonly falls downe to, and followes the course of the Riuer. And where se we greater trees of bulk and bough, then standing on or nere the waters side? If you aske why the plaines in Holdernes, & such countries are destitute of woods: I answer that men and cattell (that haue put trees thence, from out of plaines to void corners) are better then trees. Neither are those places without trees. Our old saythers can tell vs, how woods are decayed, & people in the roynth of trees multiplied. I haue stood somewhat long in this point, because some doe vtterly condemne a moist soile for fruit-trees.

A low ground is good to auoid the danger of winds, both for shaking down your vnripe fruit, and blowing down your trees. Fruit blowne vnripe, are small worth: and though they be ripe, yet being bruised with the fall, (especially if they be big) they are not good but for present vse. Trees the most (that I know) being loaden with wood, for want of prouyning, and growing high, by the unskillfulnessse of the Arbozist, must needs be in continuall danger of the South-west, West, and South-west winds, especially in September and March, when the aire is most temperate from extreme heat, and cold, which are deadly enemies to great winds. Wherefore chuse your ground low. Or if you be forced to plant in a higher ground, let high and strong walls, houses, and Trees, as Wall-nuts, Plane-trees, Oakes, and Ashes, placed in good order, be your fence for winds.

The

*Psal. 1. 3.
Eze. 17. 8.
Eccl. 39. 17.

Mark-
ham.

Winds.
chap. 13

The sucken of your Dwelling house, descending into your Orchard (if it be cleanly conueighed) is good.

The Sunne (in some sort) is the life of the world. It maketh proud growth, and ripens kindly, and speedily, according to the golden tearme: *Annus fructificat, non tellus*. Wherefore in the Countries, neerer approaching the *Zodiacke*, the Sunnes habitation, they haue better, and sooner ripe fruit, then we that dwell in these frozen parts.

This prouoketh most of our great Arbozists, to plant Apples, cherries, and Peaches, by a wall, and with tacks, and other meanes to spread them vpon, and fasten them to a wall, to haue the benefit of the immoderate reuerse of the Sun, which is commendable, for the having of faire, good, & some ripe fruit. But let them know it is moze hartfull to their trees then the benefit they reape thereby can require: as not suffering a Tree to line the tenth part of his age. It helpes Gardners to worke, for first the wall hinders the roots, because into a dry and hard wall of earth or stone, a tree will not; nor cannot put any root to profit, but especially it stops the passage of sap, whereby y barke is wounded, and the wood, and diseases grow, so that the tree becomes short of life. For as in the body of a man, the leaning or lying on some member, wherby the course of blood is stoppt, makes that member as it were dead for the time, till the blood returne to his course, and I thinke, if that stopping should continue any time, the member would perish for want of blood (for the life is in the blood) and so endanger the body: so the sap is the life of the Tree, as the blood is to mans body: neither both the tree in winter (as is supposed) want his sap, no moze then mans body his blood, which in winter, & time of sleep dwales inward. So y the dead time of winter, to a tree, is but a night of rest: for the tree at all times, euen in winter is nourished with sap, & groweth as well as mans body. The chilling cold may well some little time stop, or hinder the proud course of the sap, but so little & so short a time, that in euery calme, & mild season, euen in the depth of winter (if you marke it) you may easily perceiue, the sap to put out, & your trees to increase their buds, which were formed in the Summer before, and may easily then bee discerned: for leaues fall not off, till they be thrust off, with the knots or buds, whereupon it comes to passe that Trees cannot beare fruit

Sunne.

Trees against a wall.

plen

plentifully two yeeres together, and make themselves ready to blossom against the seasonableness of the next Spring.

And if any frost be so extreme, that it stay the sap too much, or too long, then it kills the forward fruit in the very bud, and sometimes the tender leaves and twigs, but not the tree. Wherefore (to returne) it is perillous to stop the sap. And where, or when, did you ever see a great tree packt on a wall? Nay, who did ever know a tree so unkindly splat, come to age? I have heard of some, that out of their imaginary cunning, have planted such Trees, on the North side of the wall, to avoid drought, but the heat of the Sunne is as comfortable (which they should have regarded) as the drought is hurtfull. And although water is a soveraigne remedy against drought, yet want of Sun is no way to be helped. Wherefore to conclude this Chapter, let your ground lie so, that it may have the benefit of the south, and west Sunne, and so low and close, that it may have moisture, and increase his fatnesse (for trees are the greatest suckers and pillers of earth, and (as much as may be) free from great winds.

CHAP. IIII.

Of the quantitie.



It would bee remembred what a benefit it is, not only to every particular owner of an Orchard, but also to the common-wealth, by Fruit, as shall be shewed in the 16. chapter (God willing) whereupon must needs follow: the greater the Orchard is (being good and well kept) the better it is, for of good things, being equally good, the biggest is the best. And if it shall appeare, that no ground a man occupieth (no, not the Cozne-field) yieldeth more gaine to the purse, and house-keeping (not to speake of the unspeakable pleasure) quantitie for quantitie, than a good Orchard (besides the cost in planting, and dressing an Orchard, is not so much by farre, as the labour and seeding of your Cozne-fields, nor so durance of time, comparable, besides the certainty of the one before the other) I see not how any labour, or cost in this kinde, can be idly, or wastfully bestowed, or thought too much. And what other thing is a

Uine,

Orchard
as good
as a corn
field.

Wineyard (in those Countries where Vines do thriue) than a large Orchard of trees bearing fruit: Or what difference is there in the Juice of the Grape, and our Cyder and Berry, but the goodnesse of the Soile and Climate where they grow: which maketh the one more ripe, and so more pleasant then the other. Whatsoever can be said for the benefit rising from an Orchard, that makes for the largenes of the Orchards bounds. And (me thinks) they doe preposterously, that bestow more cost and labours, and more ground in and vpon a Garden than vpon an Orchard, whence they reape and may reape both more pleasure and more profit, by infinite degrees. And further, that a Garden neuer so fresh, and faire, and well kept, cannot continue without both renewing of the earth, and the herbs often, in the short and ordinary age of a man: whereas your Orchard well kept shall dure diuers hundred yeeres, as shall be shewed chapter 14. In a large Orchard there is much labour saved, in fencing, and otherwise: for three little Orchards, or few trees, being (in a manner) all out-sides, are so blassed and dangered, and commonly in keeping neglected, and require a great fence; whereas in great Orchards, trees are a mutuall defence one to another, and the keeping is regarded, and lesse fencing serues five acres together, than three in severall inclosures.

Now what quantitie of ground is meetest for an Orchard can no man prescribe, but that must be left to every mans severall iudgement, to be measured according to his ability and will, for other necessities besides fruit must be had, and some are more delighted with Orchards then others.

Let no man hauing a fit plot pleade pouerty in this case, for an Orchard once planted will maintaine it selfe, and yield infinite profit besides. And I am perswaded, that if men did know the right and best way of planting, dressing, and keeping trees, & felt the profit and pleasure thereof, both they that haue no Orchards would haue them, and they that haue Orchards, would haue them larger, pea fruit trees in their hedges, as in Worstershire, &c. And I thinke, that the want of planting, is a great losse to our common-wealth, & in particular, to the owners of Lordships, which Landlords themselves might easily amend, by granting longer terme, and better assurance to their Tenants, who haue taken by this Powerbe, Borch and sic, Build and sic:

What
quantity of
ground.
Want is
no hindrance.
How
Landlords, by
their tenants
may make
flourishing
orchards in
England.

Compared with
a Vineyard.

Compared with
a garden

for who wil build, or plant for another mans profit: Or the Parliament might entoyne every occupier of grounds, to plant and maintaine for so many acres of fruitfull ground, so many severall trees of kind of trees for fruit. Thus much for quantity.

CHAP. V.

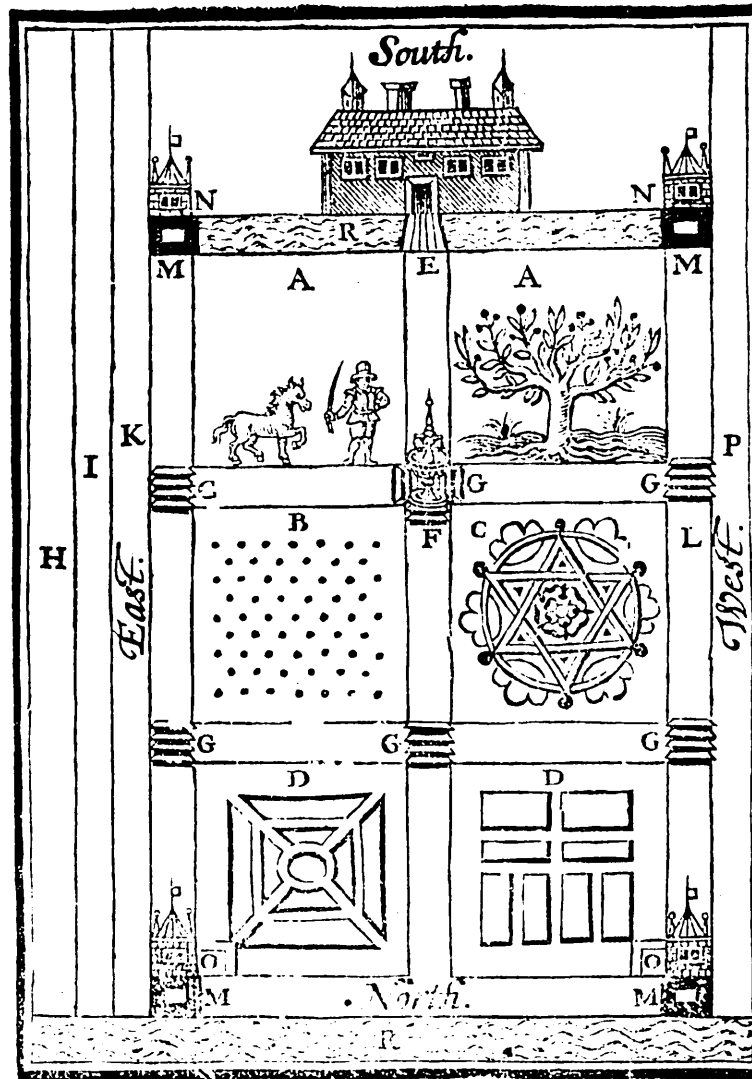
Of the Forme.



The v-
suall
forme is
a square.

The goodnesse of the Soile, and Site, are necessary to the well being of an Orchard simply, but the forme is so farre necessary, as the owner shall thinke meet, for that kind of forme wherewith every particular man is delighted, we leaue it to himselfe, *sum cuique pulchrum*. The forme that men like in generall is a square, for although roundnesse be *forma perfectissima*, yet that principle is good where necessity by art doth not force some other forme. Now for as much as one principall end of Orchards is recreation by walkes, and vniuersally walkes are straight, it followes that the best forme must be square, as best agreeing with straight walkes: yet if any man be rather delighted with some other forme, or if the ground will not beare a square, I discommend not any forme so it bee formall. And a square may be drawn out of any forme to make straight walkes; and no forme of it selfe is either good or bad for the trees. If within one large square the Cardner shall make one round labyrinth or Maze with some kind of Berries, it will grace your forme, so there be sufficient roomth left for walkes, so will foure or more round knots doe. For it is to be noted, that the eye must be pleased with the forme. I haue seene squares rising by degrees with Staies from your house-ward, according to this forme which I haue, *Crossa quod aiant Minerva*, with an vnsteady hand, rough betwen, for in forming the Country Gardeners, the better sort may vse better formes, and more costly worke. What is needfull more to be said, I referre that all (concerning the forme,) to the chapter 17. of the ornaments of an Orchard.

CHAP.



A. All these squares must bee set with trees, the Gardens & other ornaments must stand in spaces betwixt the trees, & in the borders and fences.

B. Trees 20. yards asunder.

C. Garden knot.

D. Kitchen garden.

E. Bridge.

F. Conduit.

G. Staies.

H. Walkes set with great wood thicke.

I. Walkes set with great wood round about your Orchard.

K. The out fence.

L. The out fence set with stone fruit.

M. Mount. To force earth for a mount, or suchlike, set it round with quick; and lay boughs of trees strangely intermingled, tops inward with the earth in the middle

N. Still-house.

O. Good standing for Bees, if you haue an house.

P. If the Riuer run by your doore, and vnder your mount it will be pl. asant.

CHAP. VI.

Of Fences.

Effect of
euill fen-
ces.



All your labour past and to come about an Orchard is lost unless you fence well. It shall grieve you much to see your young sets rubb loose at the roots, the barke pild, the boughs and twigs cropt, your fruit stolne, your trees broken, and all your many yeeres Laboure and hopes destroyed, for want of Fences. A chiefe care must be had in this point. You must therefore plant in such a soile, where you may provide a convenient, strong, and seemely fence. For you can possesse no goods, that haue so many enemies as an Orchard, looke chapt. 13. Fruits are so delightfome, and desired of so many (nay, in a manner of all) and yet few will be at cost and take paines to provide them. Fence well therefore, let your plot be wholly in your owne power, that you make all your fence your selfe: for Neighbours fencing is none at all, or very carelesse. Take heed of a doore or window (yea of a wall) of any other mans into your Orchard: yea, though it be naild by, or the wall be high, for perhaps they will proue thaxes.

Let the
fence be
your
owne.

Kinds of
fences.
Earthen
walls.

All Fences commonly are made of Earth, Stone, Bricke, Wood, or both earth and wood. Dry wall of earth, and dry Ditches, are the worst fences save pales or railes, and doe waste the soilest, unless they be well copt with gloue and mortar, whereon at High-tide it will be good to sow Wall flowers, commonly called *Wex-flowers*, or winter Silly-flowers, because they will grow (though amongst stones) and abide the strongest frost and drought, continually greene and blowing, even in Winter, and haue a pleasant smell, and are timely, (that is, they will floure the first and last of flowers) and are good for *Wex*. And your earthen wall is good for *Wex* dry and warme. But these fences are both unfarmly, euill to repaire, and onely for need, where stone or wood cannot be had. Whosoever makes such Walls, must not pill the ground in the Orchard, for getting earth, nor make any pits or hollowes, which are both unfarmly and unprofitable. Did dry earth mixt with sand is best for these.

This

This kinde of wall will soone decay, by reason of the trees which grow nere it, for the roots and boales of great trees, will increase, undermine, and ouerturne such walls, though they were of stone, as is apparant by Ashes, Roundtrees, Burt-trees, and such like, carried in the chat, or berrie, by birds into stone walls.

Fences of Dead-wood, as pales, will not last, neither will railes either last or make good fence.

Stone walls (where stone may be had) are the best of this sort, both for fencing, lasting, and shrouding of your young trees. But about this must you bestow much paines and more cost, to haue them handsome, high and durable.

But of all other (in mine opinion) Quickwood, and Moats or Ditches of Water, where the ground is leuell, is the best fence. In vnequall grounds, which will not keepe water, there a double ditch may be cast, made streight and leuell on the top, two yards broad for a faire walke, five or six foot higher then the soyle, with a gutter on either side, two yards wide, and foure foot deepe set without, with three or foure cheffe of Thornes, and within with Cherry, Plumme, Damson, Bullys, Filberds, (for I loue these trees better for their fruit, & as well for their forme, as pruit) for you may make them take any forme. And in every corner (and middle if you will) a mount would be raised, whereabout the wood may claspe, powdered with wood-binge: which will make with dressing a faire, pleasant, profitable, and sure fence. But you must be sure that your quicke thornes either grow wholly, or that there be a supplie betime, either with planting new, or plashing the old where want is. And assure your selfe, that neither wood, stone, earth, nor water, can make so strong a fence, as this after 7. yeares growth.

Moates, fish-ponds, and (especially at one side a River,) within and without your fence, will afford you fish, fence, and moysture to your trees, and pleasure also, if they be so great & deepe that you may haue Swans, & other water birds, good for deuouring of vermine, and a boat for many good uses.

It shall hardly auaille you to make any fence for your Orchard, if you be a niggard of your fruit. For as liberality will saue it best from noysome neighbours, liberality I say is the best fence, so Justice must restraine rioters. Thus when your ground is tempered, squared, & fenced, it is time to provide for planting.

Pale and
Raile.
Stone
walls.

Quicke
wood &
Moates.

Moates.

CHAP. VII.

Of Sets.



There is not one point (in my opinion) about an Orchard more to be regarded, than the choice getting and setting of good plants, either for readinesse of hauing good fruit, or for continuall lasting. For whosoever shall faile in the choise of good Sets, or in getting, or gathering, or setting his Plants, shall neuer haue a good or lasting Orchard. And I take want of skill in this facultie to be a chiefe hinderance to the most Orchards, and to many for hauing of Orchards at all.

Slips.

Some for readinesse vse slips, which seldome take root: and if they doe take, they cannot last, both because their root hauing a maine wound will in short time decay the body of the tree: and besides that rootes being so weakely put, are soone nipt with drought or frost. I could neuer see (lightly) any slip but of Apples onely set for trees.

Bur-knot.

A bur-knot kindly taken from an Apple tree, is much better and surer. You must cut him close at the root end, an handfull vnder the knot, (Some vse in Summer about Lammas to circuncise him, and put earth to the knot with hay roaps, and in winter cut him off and set him, but this is curiosity, needlesse, and danger with remouing, and drought.) and cut away all his twigs saue one, the most principall, which in setting you must leane aboue the earth, burying his trunk in the crust of the earth for his root. It matters not much what part of the bough the twig growes out of. If it grow out of or neere the root end, some say such an Apple will haue no coare nor kinnell. Or if it please the Plantor, he may let his bough be crooked, and leane out his top end, one foot or somewhat more, wherein will be good grafting, if either you like not, or doubt the fruit of the bough (for commonly your Bur-knots are Summer fruit) or if you thinke he will not, couer his wound safely.

Vsuall Sets.

The most vsuall kinde of Sets, is Plants with rootes growing of kinnels of Apples, Peares, and Grabs, or stones of Cherries, Plummes, &c. remoued out of a Nursery, Wood, or other Orchard, into, and set in your Orchard in their due places.

I

I grant this kinde to be better than either of the former, by much, as more sure and more durable. Herein you must note, that in sets so remoued, you get all the rootes you can, and without building of any; I utterly dislike the opinion of those great Gardiners, that following their Bookes would haue the maine rootes cut away, for tops cannot grow without roots. And because none can get all the rootes, and remouall is an hindrance, you may not leaue on all tops, when you set them: For there is a proportion betwixt the top and root of a tree, euen in the number (at least) in the growth. If the rootes be many, they will bring you many tops, if they be not hindered. And if you vse to stowe or top your tree too much or too late, and leaue no stue, or little for sap, (as is to be seene in your hedges) it will hinder the growth of roots and boale, because such a kinde of stowing is a kinde of smothering, or choaking the sap. Great wood, as Oake, Elm, Ash, &c. being continually kept downe, with sheeres, knife, axe, &c. neither boale nor root will thrive, but as an hedge or bush. If you intend to graffe in your Set, you may cut him closer with a greater wound, and nearer the earth, with in a foot or two, because the graft or grafts will couer his wound. If you like his fruit, and would haue him to be a tree of himselfe, be not so bold: this I can tell you, that though you doe cut his top close, and leaue nothing but his buske, because his rootes are set, if he be (but little) bigger than your thumbe (as I with all Plants remoued to be) he will safely recouer his wound within seven yeares; by good guidance that is: If the next time of dressing immediately aboue his uppermost sprig, you cut him off adobe cleanly, so that the sprig stand on the backe side, (and if you can Southward, that the wound may haue the benefit of Sunne) at the upper end of the wound: and let that sprig onely be the boale. And take this for a generall rule; Every young Plant, if he thrive, will recouer any wound aboue the earth, by good dressing, although it be to the one halfe, and to his very heart. This short cutting at the remoue, saues your Plants from Canke, and made the lesse or no flaking. I commend not Lying or Leaning of Trees against Walls or Stappes; for it breeds obstrucion of Sappe and woundes incurable. All remouing of Trees as great as your time, or aboue, is dangerous: though some time

Maine
rootes cut
Stow
sets re-
moued.

Generall
rule.

Tying
of Trees.
Generall
rule.

time

time some such will grow, but not continue long: Because they be tainted with deadly wounds, either in the root or top. (And a tree once thoroughly tainted is neuer good.) And though they get some hold in the earth with some lesser talw, or talwes, which giue some nourishment to the body of the tree: yet the heart being tainted, he will hardly ener thrive; which you may easily discern by the blacknesse of the boughs at the heart, when you dress your trees. Also, when he is set with more tops than the rootes can nourish, the tops decaying, blacken the boughs, and the boughs the armes, and so the boale at the very heart. If this taint in the remouall, if it kill not presently, but after some short time, it may be discerned by blacknesse or yellownesse in the barke, at a small hungred leafe. If your remoued Plant put forth leaues the next and second Summer, and little or few sprays, it is a great signe of a taint, and next yeares death. I haue knowne a tree tainted in setting, yet grow, and beare blossomes for diuers yeeres: and yet for want of strength could neuer shape his fruit.

Signes
of disea-
ses. Cha.
13.

Suckers
good
sets.

Pert vnto this, or rather equall with these Plants, are Suckers growing out of the rootes of great Trees, which Cherries & Plummes doe seldome or neuer want: and being taken kindly with their roots, will make very good Sets. And you may helpe them much by enlarging their rootes with the talwes of the tree, whence you take them. They are of two sorts: Either growing from the very root of the tree: and here you must be carefull, not to hurt your tree when you gather them, by ripping amongst the rootes; and that you take them cleane away: for these are a great and continuall annoyance to the growth of your tree: and they will hardly be cleansed. Secondly, or they doe arise from some talw: and these may be taken without danger, with long and good rootes, and will soone become Trees of strength.

A Run-
ning
Plant.

There is another way, which I haue not thoroughly proued, to get not only Plants for grafting, but Sets to remaine for Trees, which I call a Running Plant: the manner of it is this: Take a Rote or kirknell, and put it into the middle of your plot, and the second yere in the Spring, geld his top, if he haue one principall, (as commonly by nature they haue) and let him put forth only foure Cyons toward the foure corners of the Orchard,

Orchard, as nere the earth as you can. If hee put not foure, (which is rare) stay his top till he haue put so many. When you haue such foure, cut the Stocke aslope, as is aforesaid in this Chapter, hard aboue the uppermost sprig, and keepe those foure without Cyons cleane and streight, till you haue them a yard and an halfe, at least, or two yards long. When the next spring in grafting time, lay downe those foure sprays, towards the foure corners of your Orchard, with their tops in an heape of pure and good earth, raised as high as the root of your Cyon, (for sap will not descend) and a sod to keepe them downe, leauing nine or twelue inches of the top to looke upward. In that hill he will put roots, and his top new Cyons, which you must spread as before, and so from hill to hill till hee spread the compasse of your ground, or as farre as you list. If in bending, the Cyons cracke, the matier is small, cleanse the ground and hee will recouer. Euery bended bough will put forth branches, and become Trees. If this Plant be of a burr knot, there is no doubt. I haue proued it in one Branch my selfe: and I know at Wilton in Cleene land a Pearre-tree of a great bulke and age, blooming close to the earth, hath put at euery knot rootes into the earth, and from root to top, a great number of mighty armes or trees, filling a great romth, like many trees, or a little Orchard. Much better may it be done by Art in a lesse Tree. And I could not mislike this kinde, saue that the time will be long before it come to perfection.

Many vse to buy Sets already grafted, which is not the best way: for first, All remoues are dangerous: Again, there is danger in the carriage: Thirdly, it is a costly course of Planting: Fourthly, euery Gardiner is not trusty to sell you good fruit: Fifthly, you know not which is best, which is worst, and so may take most care about your worst trees. Lastly, this way keepes you from practise, and so from experience, in so good, Gentlemanly, Scholerlike, and profitable a Faculty.

The onely best way (in my opinion) to haue sure and lasting Sets, is neuer to remoue: for euery remoue is an hinderance, if not a dangerous hurt or deadly taint. This is the way: The Plot forme being laid, and the Plot appointed where you will plant euery Set in your Orchard, dig the romth, where your Sets shall stand, a yard compasse, and

Settes
bought.

The best
Sets.

Vnre-
moued
how.

and make the earth melloe and cleane, and mingle it with a few coale ashes, to avoid Wormes: and immediately after the first change of the Moone, in the latter end of February, the earth being a fresh turned over, put in every such rowth three or foure Birnells of Apples or Peares, of the best: every Birnell in an hole made with your finger, finger-deepe, a foot distant one from another: and that day Moneth following, as many more, (lest some of the former misse) in the same compasse; but not in the same holes. Hence (God willing) shall you haue rootes enough. If they all, or diuers of them come vp, you may draw (but not dig) vp (not put downe) at your pleasure, the next Nouember. How many soeuer you take away, to giue or bestow elswhere, be sure to leaue two of the proudest. And when in your second and third yeere you Graffe (if you Graffe then at all) leaue the one of those two vngrafted, lest in grafting the other you faile: For I finde by tryall, that after first or second grafting in the same Stocke, being mist (for who hits all) the third misse puts your Stocke in deadly danger, for want of issue of sap. Pea, though you hit in grafting, yet may your gresses with Winde or otherwise bee broken downe. If your gresses or gresse prosper, you haue your desire, in a Plant vnremoued, without taint, and the fruit at your owne choise, and so you may (some little earth being remoued) pull, but not digge vp the other Plant or Plants in that rowth. If your gresse or Stocke, or both perish, you haue another in the same place, of better strength to worke vpon. For thriuing without snub hee will overlay your grafted Stocke much. And it is hardly possible to misse in grafting so often, if your Gardiner be worth his name.

Sets vn-
grafted
best of
all.

It shall not bee amisse (as I iudge it) if your Birnells be of choice fruit, and that you see them come forthward proudly in their body, and beare a faire and broad leafe in colour, tending to a greenish yelloe (which argues pleasant and great fruit) to try some of them vngrafted: for although it be a long time ere this come to beare fruit, ten or twelue yeeres, or more; and at their first bearing, the fruit will not seeme to bee like his owne kinde: yet am I assured, vpon tryall, before twenty yeeres growth, such Trees will increase the bignesse and goodnesse of their fruit, and come perfectly to their owne kinde.

Trees

Trees (like other breeding creatures) as they grow in yeeres, bignes, and strength; so they mend their fruit. Husbonds and Husbandes finde this true by experience, in the rearing of their young Stoze. More then this, there is no tree like this for soundnesse & durable last, if his keeping and dwelling be answerable. I grant, the readiest way to come sone to fruit is grafting: because in a manner, all your Grasses are taken of fruit-bearing Trees.

Now when you haue made choise of your Sets to remoue, Time of
the ground being ready, the best time is, immediately after the remo-
fall of the Lease, in, or about the change of the Moone, when the uing.
sap is most quiet: for then the sap is in turning: for it makes no stay, but in the extremity of drought or cold. At any time in
winter, may you transplant trees, so you put no Ice nor Snow
to the roote of your Plant in the setting: and therefore open, General
calme, and moist weather is best. To remoue, the leafe being rule.
ready to fall and not fallen, or buds apparantly put forth in a moist, warme season, for need, sometime may doe well: but the safest is to walke in the plaine trodden path.

Some hold opinion that it is best remouing before the fall of the leafe, and I heare it commonly so practised in the South by our best Arbozists, the leafe not fallen: & they giue the reason to be, that the descending of the sap will make speedy roots. But marke the reasons following, and I thinke you shall find no soundnes, either in that positio or practise, at least in the reason.

1. I say, it is dangerous to remoue when the sap is not quiet, for euery remoue giues a main checke to the stirring sap, by staying the course thereof in the body of your plant, as may appeare in trees remoued any time in Summer, they commonly die, nay hardly shall you saue the life of the most young and tender plant of any kind of wood (scarcely herbes) if you remoue them in the pride of sap. For proud sap vniuersally stayed, by remouall, euer hinders, often taints, and so presently, or in very short time kills. Sap is like blood in mans body, in which is the life, Cap. 3. pag. 8. If the blood vniuersally be cold, life is excluded; so is sap tainted by vntimely remouall. A stay by drought, or cold, is not so dangerous (tho dangerous if it be extreme) because more naturall.

2. The sap neuer descends, as men suppose, but is concolli-
dated and transubstantiated into the substance of the tree, and
passeth

passeth (alwayes above the earth) upward, not only betwixt the barke and the wood, but also into & in both body and barke, tho not so plentifully, as may appeare by a tree budding, may fructifying 2. or 3. yeeres, after he be circumcised, at the very root, like a River that enlargeth his chanell by a continuall descent.

3. I cannot perceiue what time they wold haue y^e sap to descend. At Midsummer in a biting drought it staies, but descends not, for immediatly by moisture it makes second shoots, at or before rather) Michaeltine, when it shapens his buds for next yeeres fruit. If at the fall of the leafe, I grant, about that time is y^e greatest stand (but not descent) of sap, which begins somewhat before the leafe fall, but not long, & therefore at that time must needs be the best removing, not by reason of the descent, but stay of sap.

4. The sap in his course hath his profitable and apparent effects, as the growth of the Tree; covering of wounds, putting of buds, &c. Whereupon it followes, if the sap descend, it must needs haue some effect to shew it.

5. Lastly, boughs plash and laid lower than the root, die for want of sap descending, except where it is forced by the maine stream of the sap, as in top boughs hanging like water in pipes, or except the plash bough lying on the ground put roots of his owne, yea under boughs which wee commonly call water-boughs, can scarcely get sap to line, yea in time dye, because the sap both presse so violently byward, and therefore the fairest shoots and fruit are alwaies in the top.

Obiect. If you say that many so removed thins, I say that somewhat before the fall of the leafe (but not much) is the stand, for the fall and the stand are not at one instant, before the stand is dangerous. But to returne.

Remoue
soone.

The sooner in Winter you remoue your Setts, the better; the latter the worse: For it is very perillous if a strong drought take your Setts before they haue made good their rooting. A plant set at the Fall, shall gaine (in a manner) a whole yeeres growth of that which is set in the Spring after.

The
manner
of set-
ting.

I vse in the setting to bee sure, that the earth bee mouldy, (and somewhat moist) that it may ruine among the small tangles without straining or bruising: and as I fill in earth to his root, I shake the Set easily to and fro, to make the earth settle the better to his roots: and withall easily with my

my foot I put in the earth close; for ayre is noysome, and will follow concavities. Some prescribe Dates to be put in with the earth. I could like it, if I could know any reason therefor: and they vse to set their plant with the same side toward the Sun: but this conceit is like the other. For first I would haue euery tree to stand so free from shade, that not onely the root (which therefore you must keepe bare from grasse) but body, boughes, and branches, and euery spray, may haue the benefit of Sun. And what hurt, if that part of the tree, that before was shadowed, be now made partaker of the heat of the Sun? In turning of Was I know it is hurtfull, because it changeth their entrance, passage, and whole worke: But not so in Trees.

Set as deepe as you can, so that in any wise you goe not beneath the crust. Locke Chap. 2.

Set in
the crust.
Moyster
good.

The spake in the second Chapter of moisture in generall: but now especially having put your removed plant into the earth, powre on water (of a puddle were good) by disilling presently, and so euery weeke twice in strong drought, so long as the earth will drinke, & refuse by overflowing: For moisture mollifies, & both giues leane to the roots to spread, & makes the earth yeld sap and nourishment, with plentie & facilitie. Purses (they say) giue most and best milke after warme drinks. If your ground be such that it will keepe no moisture at the root of your plant, such plant shall neuer like, or but for a time. There is nothing more hurtfull for young trees than piercing drought. I haue knowne trees of good stature after they haue bene of diuers yeeres growth, and thins well for a good time, perish for want of water, and very many by reason of faines in setting.

It is meet your sets and grafts be fenced, till they be as big as your arme, for feare of annoyances. Many waies may sets receiue dammages, after they be set, whether they be grafted or ingrafted. For, although we suppose, that no noysome beast, or other thing must haue access among your trees: yet by casualtie, a Dog, Cat, or such like, or your selfe, or negligent friend bearing you company, or a shrewd boy, may tread or fall vpon a young and tender plant or graft. To auoyd these and many such chances, you must take them round a prettie distance from the set, neither so neere, nor so thicke, but that it may haue the benefit of Sunne, raine, and aire.

Grafts
must be
fenced.

Your stakes (small or great) would be so surely put, or driven into the earth, that they breake not, if any thing happen to leane upon them, else may the fall be moze hurtfull, than the want of the fence. Let not your stakes shelter any wēdes about your sets, for want of Sunne is a great hinderance. Let them stand so far off, that your grafts spreading receiue no hurt, either by rubbing on them, or of any other thing passing by. If your stocke be long, and high grafted (which I much discommend (except in need) because there the sap is weake, and they are subject to strong wind, and the lighting of birds) tie easily with a soft liff three or foure pickes vnder the clay, and let their tops stand aboue the grafts, to auoid the lighting of Crowses, Pyes, &c. upon your grafts. If you sticke some sharpe thornes at the roots of your stakes, they will make hurtfull things keepe off the better. Other better fences for your grafts I know none. And thus much for sets and setting.

CHAP. VIII.

Of the distance of Trees.



I know not to what end you should prouide good ground, well fenced, & plant good sets; & when your trees should come to profit, haue all your labours lost, for want of due regard to the distance of placing of your trees. I haue seene many trees stand so thicke, that one could not thriue for the thronge of his neighbours. If you doe marke it, you shall see the tops of trees rubb off, their sides galled like a galled horses backe, and many trees haue moze stumps than boughs, and most trees no well thriuing, but short, stumpy, & euill thriuing boughs: like a Cozne-field ouer-seeded, or a towne ouer-peopled, or a pasture ouer-laid, which the Gardiner must either let grow, or leaue the tree very few boughs to beare fruit. Hence small thrist, galls, wounds, diseases, and short life to the trees: and while they liue greene, little hard, worme-eaten, and euill thriuing fruit arise, to the discomfort of the owners.

Remedy.

To prevent which discommoditie, one of the best remedies is, the sufficient & fit distance of trees. Therefore at the setting of our plants you must haue such a respect, that the distance of them

them be such, that every tree be not annoiance, but an helpe to his fellowes: for trees (as all other things of the same kinde) should grow, and not hurt one another. And assure your selfe, that every touch of trees (as well vnder as aboue the earth) is hurtful. Therefore this must be a generall rule in this Art: That no tree in an Orchard well ordered, nor bough, nor Cyp, drop upon, or touch his fellowes. Let no man thinke this impossible, but loke in y^e eleventh chapter of dressing of trees. If they touch, the winde will cause a forcible rub. Young twigs are tender, if boughs or armes touch and rub, if they are strong, they make great galls. No kinde of touch therefore in trees can be good.

Now it is to be considered what distance amongst sets is requisite, and that must be gathered from the compass and rownth, that each tree by probability will take and fill. And herein I am of a contrary opinion to all them, which practise or teach the planting of trees, that euer yet I knew, read, or heard of. For the common space betwix trees and tree is ten foot: if twenty foot, it is thought very much. But I suppose twenty yards distance is small enough betwix tree and tree, or rather too little. For the distance must needs be as far as two trees are well able to ouer-spread, and fill, so they touch not, by one yard at least. Now I am assured, and I know one Apple-tree, set of a slip finger-great, in the space of twenty yeares, (which I count a very small part of a trees age, as is shewed Chapter 14.) hath spread his boughs euen or twelue yards compass, that is, sixe or sye yards on euery side. Hence I gather, that in forty or fiftie yeares (which yet is but a small time of his age) a tree in good soile, well liking, by good dressing (for that is much available to this purpose) will spread double at the least, viz. twelue yards on a side, which being added to twelue allotted to his fellow, make twenty and foure yards, and so farre distant must every tree stand from another. And loke how farre a tree spreads his boughs above, so far doth he put his roots vnder the earth, or rather further, if there be no stop, nor let by walls, trees, rocks, barren earth, and such like: for an huge bulk, and strong armes, massive boughs, many branches, and infinite twigs, require wide-spreading rootes. The top hath the vast aire to spread his boughs in, high and low, this way and that way: but the roots are kept in the crust of the earth, they may not goe downeward, nor

Generall rule. All touches hurt full.

The best distance of trees.

Parts of a tree.

upward out of the earth, which is their element, no more than the fish out of the water, Camelion out of the Aire, nor Salamander out of the Fire. Therefore they must needs spread far vnder the earth. And I dare well say, if nature would giue leaue to man by Art, to dress the roots of trees, to take away the tawes, and tangles, that lap and fret and grow superfluously and disorderly, (for euery thing *sublunary* is cursed for mans sake) the tops about being answerably dressed, we should haue trees of wonderfull greatnesse, and infinite durance. And I perswade my selfe that this might be done sometimes in Winter, to trees standing in faire plaines and kindly earth, with small or no danger at all. So that I conclude, that twenty foure yards are the least space that Art can allot for trees to stand distant one from another.

Waste
ground
in an or-
chard.

If you aske me what vse shall be made of that waste ground betwixt tree and tree: I answer: If you please to plant some tree or trees in that middle space, you may, and as your trees grow contiguous, great and thicke, you may at your pleasure take vp those last trees. And this I take to be the chiefe cause, why the most trees stand so thicke. For men not knowing (or not regarding) this secret of needfull distance, and louing fruit of trees planted to their hands, thinke much to pull by any, though they pine one another. If you or your helres or successors would take by some great trees (past setting) where they stand so thicke, be sure you doe it about midsummer, and leaue no maine rootes. I destinate this space of foure and twenty yards, for trees of age and stature. More than this, you haue borders to be made for walks, with Roses, Berries, &c.

And chieflie consider: that your Orchard, for the first twenty or thirtie yeeres, will serue you for many Gardens, for Saffron, Licorises, roots, and other herbes for profit, and flowers for pleasure: so that no ground need be wasted if the Gardiner be skillfull and diligent. But be sure you come not nere with such deepe deluing the rootes of your trees, whose compasse you may partly discern, by the compasse of the tops, if your top be well spread. And vnder the droppings and shadow of your trees, be sure no herbes will like. Let this be said for the distance of Trees.

CHAP.

CHAP. IX.

Of the Placing of Trees.



The placing of Trees in an Orchard is well worth the regard: For although it must be granted, that any of our foresaid Trees (chap. 2.) will like well in any part of your Orchard, being good and well dressed earth: yet are not all Trees alike worthy of a good place. And therefore I wish that your Filbert, Plummes, Damsons, Buleste, and such like, be utterly remoued from the plaine soile of your Orchard into your fence: for there is not such fertility and easfull growth, as within: and there also they are more subiect, and can better abide the blasts of Aeolus. The Cherries and Plummes being ripe in the hot time of Summer, and the rest standing longer, are not so soon shaken as your better fruit: neither if they suffer losse, is your losse so great. Besides that, your fences and ditches will deuoure some of your fruit growing in or nere your hedges. And seeing the continuance of all these (except Ruts) is small, the care of them ought to be the lesse. And make no doubt, but the fences of a large Orchard will containe a sufficient number of such kind of Fruit-trees in the whole compasse. It is not materiall, but at your pleasure, in the said fences, you may either intermingle your severall kinds of fruit-trees, or set euery kind by himselfe, which order doth very well become your better and greater fruit. Let therefore your Apples, Peares, and Quinces, possesse the soile of your Orchard, vnlesse you be especially affected to some of your other kinds: and of them let your greatest Trees of growth stand furthest from Sunne, and your Quinces at the South side or end, and your Apples in the middle, so shall none be any hindrance to his fellowes. The Marden-tree, and winter Peare will challenge the preheminance for stature. Of your Apple-trees you shall finde difference in growth. A good Pippin will grow large, and a Cossard tree: lead them on the North side of your other Apples, thus being placed, the least will giue Sun to the rest, and the greatest will shadow their fellowes. The fences and out-trees will guard all.

CHAP.



CHAP. X.

Of Grafting.

Of gra-
uing or
caruing.

Grafting
what.

A Grafte

Kinds of
grafting.



Now are we come to the most curious point of our faculty: curious in conceit, but indeed as plaine and easie as the rest, when it is plainly shewne, which we commonly call Grafting, or (after some) Graffing. I cannot Etymologize, nor shew the originall of the word, except it come of grauing and caruing. But the thing or matter is: The reforming of the Fruit of one Tree with the fruit of another, by an artificiall transplacing or transposing of a twig, bud or leafe, (commonly called a Graft) taken from one tree of the same, or some other kind, and placed or put to, or into another tree in due time and manner.

If this there be diuers kinds, but three or foure now especially in vse: to wit, Grafting, Insetting, packing on, grafting in the scutchion, or Inoculating: whereof the chiefe and most vsuall, is called grafting (by the generall name, *Catahexoceni*;) for it is the most knowne, surest, readiest, and plainest way to haue store of good fruit.

At

It is thus wrought: You must with a fine, thin, strong, and sharpe Saw, made and armed for that purpose, cut off a foot above the ground, or thereabouts, in a plaine without a knot, or as nere as you can without a knot (for some Stockes will be knotty) your Stocke, set or plant, being surely stayed with your foot and legges, or otherwise freight onerthwart (for the Stocke may bee crooked) and then plaine his wound, smoothly with a sharpe knife: that done, cleane him cleanly in the middle with a cleauer, and a knocke or mall, and with a wedge of wood, Iron or Bone, two handfull long at least, put into the middle of that cleft, with the same knocke, make the wound gape a faw breadth wide, into which you must put your Graffes.

The graft is a top twigge taken from some other Tree (for it is folly to put a graffe into his stone Stocke) beneath the uppermost (and sometime in need the second) knot, and with a sharpe knife fitted in the knot (and sometime out of the knot when made is) with shoulders an ynch or so inward, and so put into the stock with some thrusting (but not straining) barke to barke inward.

Let your graffe haue three or foure eyes, for readinesse to put forth, and giue issue to the sap. It is not amisse to cut off the top of your graffe, and leaue it but five or six inches long, because commonly you shall see the tops of long graffes die. The reason is this. The sap in grafting receiues a rebuke, and cannot worke so strongly presently, and your graffes receiue not sap so readily, as the naturall branches. When your graffes are cleanly and closely put in, and your wedge puld out nimbly, for feare of putting your graffes out of frame, take well tempered mortar, soundly wrought with chaffe or hosedung (for the dung of cattell will grow hard, and straine your graffes) the quantity of a Coses egge, and diuide it in twa, and therewithall, coner your stocke, laying the one halfe on the one side, and the other halfe on the other side of your graffes (for thrusting against your graffes) you moue them, and let both your hands thrust at once, and alike, & let your clay be tender, to yeld easly; and all, lest you moue your graffes. Some vse to coner the cleft of the Stocke, under the clay with a peece of barke or leafe, some with a sear-cloth of ware and butter, which as they be not much need,

Eyes.

A Graft
what.

Generall
Rule.

fall, so they hurt not, unless that by being bucke about them, you move your grasses from their places. They be also mosse tyed on above the clay with some twie, wither, or other bands. These profit nothing: They all put the grasses in danger, with pulling and thrusting: for I hold this generall rule in grafting, and planting: if your stocke and grasses take, and thrive (for some will take, and not thrive, being tainted by some meanes in the planting: or grafting) they will (without doubt) recover their wounds safely and shortly.

Time of
grafting.

The best time of grafting from the time of removing your stocke is the next Spring, for that saues a second wound, and a second repulse of sap, if your stocke be of sufficient bignesse to take a grasse from as big as your thumb, to as big as an arme of a man. You may grasse lesse (which I like) and bigger, which I like not so well. The best time of the yeere is in the last part of February, or in March, or beginning of April, when the Sunne with his heat, begins to make the sap stirre more rankely, about the change of Mone before you see any great apparancy of leafe or flower, but onely knots and buds, and before they be proud, though it be sooner. Cherries, Peares, Appricocks, Quinces and Plummes would be gathered and grafted sooner.

Gathe-
ring
graffes.

The grasses may be gathered sooner in February, or any time within a moneth, or two before you grasse, or upon the same day (which I commend) if you get them any time before, for I have knowne grasses gathered in December, and doe well, take heed of drought. I have my selfe taken a bur knot of a tree, and the same day when he was laid in the earth about mid February, gathered grafts and put in him, and one of those grasses bore the third yeare after, and the fourth plentifully. Grasses of old Trees would be gathered sooner than of young trees, for they sooner breake and bud. If you keepe grasses in the earth, moisture with the heat of the Sunne will make them sprout as fast, as if they were growing on the tree. And therefore seeing keeping is dangerous, the surest way (as I iudge) is to take them within a weeke of the time of your grafting.

Grasses
of old
trees.

The grafts would be taken not of the proudest twigs, for it may be your stocke is not answerable in strength. And therefore (say I) the grafts brought from South to us in the North, although

although they take and thrive (which is somewhat doubtfull, by reason of the difference of the Climate and carriage) yet shall they in time fashion themselves to our cold Northern Soyle, in growth, taste, &c. For of the power, for want of strength may make them unreadie to receive sap (and who can tell but a power graft is tainted) nor on the outside of your tree, for there should your tree spread but in the midst: for there you may be sure your tree is no whit hindered in his growth or forme. Yes will still recover inward, more than you would wish. If your clay clift in summer with drought, looke well in the Chinkes for Emmites and Carewigs, for they are cunning and close thieues, about grafts you shall finde them stirring in the morning or evening, and the rather in moist weather. I have had many young buds of Grasses, even in the flourishing, eaten with Ants. Let this suffice for grafting, which is in the faculty counted the chiefe secret, and because it is most usuall, it is best knowne.

Emmites.

Grasses are not to be disliked for growth, till they wither, pine, and die. Usually before midsummer they breake, if they live. Some (but few) keeping proud and greene, will not put till the second yeare, so is it to be thought of sets.

The first shew of putting is no sure signe of growth it is but the sap the grasse brought with him from his tree.

So soone as you see the graft put for growth, take away the clai, for then both neither the stocke nor the grasse need it (put a little fresh well-tempered clai in the hole of the stocke) for the clai is now tender, and rather keepe moisture than drought.

The other waies of changing the naturall fruit of Trees, are more curious than profitable, and therefore I minde not to bestow much labour or time about them, onely I shall make knowne what I have pruned, and what I doe thinke.

And first of incising, which is the cutting of the backe of the boale, a rine or branch of a tree at some bending or knee, shoulderwise with two gashes, onely with a sharpe knife to the wood: then take a wedge, the bignesse of your grasse sharpe ended, flat on the one side, agreeing with the tree, and round on the other side, and with that being thrust in, raise your barke, then

Incising.

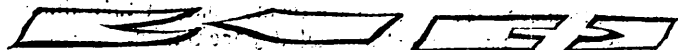
A great
stocke.

then put in your grafted, fashioned like your wedge in: and lastly cover your wound, and fast it up, and take heed of straining. This will grow but to small purpose, for it is weak hold, and lightly it will be under growth. Thus may you graft betwixt the barke and the tree of a great stocke that will not easily be clifted: But I have tried a better way for great trees, viz. first, cut him off straight, and cleanse him with your knife, then cleave him into foure quarters, equally with a strong cleaver: then take for every clift two or three small (but hard) wedges driven in with an hammer open the foure clifts to wide (but no wider) that they may take your foure grafted, with thrusting, not with straining: and lastly cover and clay it closely, and this is a sure and good way of grafting: or thus, clift your stocke by his edges twice or thrice with your cleaver, and open him with your wedge in every clift one by one, and put in your grafts, and then cover them. This may doe well.

Packing
thus.

Packing on is, when you cut a slope a twig of the same bignesse with your graft, either in or besides the knot, two inches long, and make your graft agree lumps with the cypion, and gash your graft and your cypion in the middell of the wound, length way, a straw breadth deepe, and thrust the one into the other, wound to wound, sap to sap, barke to barke, then tie them close and clay them. This may doe well. The fairest graft I have in my little Orchard, which I have planted, is thus packt on, and the branch whereon I put him, is his plentifull roote.

To be short in this point, cut your graft in any sort or fashion, two inches long, and ioyne him cleanly and close to any other sprig of any tree in the latter end of the time of grafting, when sap is somewhat rise, and in all probabilitie they will close and thrive: thus



The sprig. The graft. The twig. The graft.

Or any other fashion you thinke good.

Inoculating is an eye or bud, taken barke and all from one tree, and placed in the ronne of another eye or bud of another, cut both of one compasse, and there bound. This must be done in Summer, when the sap is proud.

Much like unto this is that, they call grafting in the scutchion. They differ thus: That here you must take an eye with his leave, or (in mine opinion) a bud with his leaves. (Note that an eye is for a cypion, a budde is for flowers and fruit.) and place them on another tree, in a plaine (for so they teach) the place of barke where you must set it must be thus cut with a sharpe knife, and the barke raised with a wedge, and then the eye or budde put in and so bound up. I cannot describe but such may grow. And your bud if he take will flower and beare fruit that yeere: as some grafts and sets also, being set for bloomes. If these two kindes thrive, they reforme but a spray, and an undergrowth. Thus you may place Roses on Thornes, and Cherries on Apples, and such like. Many write much more of grafting, but to small purpose. Whom we leave to themselves, and their followers; and ending this secret we come in the next Chapter to a point of knowledge most requisite in an Arbovist, as well for all other woods as for an Orchard.

Grafting
in the
Scutchi-
on

CHAP. XI.

Of the right dressing of Trees.



If all these things aforesaid were indeed performed, as we have shewed them in words, you should have a perfect Orchard in nature and substance, begunne to your hand: And yet are all these things nothing, if you want that skill to dresse and keepe your trees. Such is the condition of all earthly things, whereby a man receiveth profit

Necessi-
ty of
dressing
trees.

or pleasure, that they degenerate presently without good ordering. Man himselfe left to himselfe, growes from his heavenly & spirituall generation, and becometh beastly, yea devilish to his owne kind; unless he be regenerate. So marnell then, if Trees make their shoots, and put their sprays disorderly. And truly (if I were worthy to iudge) there is not a mil- chiefe

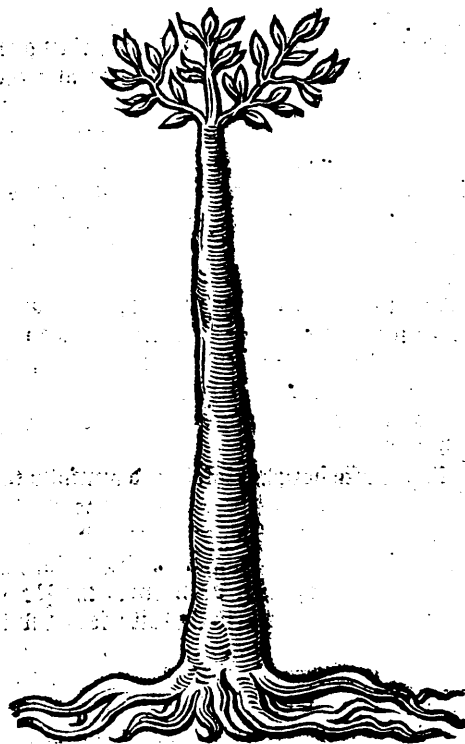
Generall
rule.

chiefe that breedeth greater and moze generall harme to all the Orchard (especially if they be of any continuance) that ever I saw, (I will not except thre) than the want of the skillfull dressing of trees. It is a common and unskillfull opinion, and saying, Let all grow, and they will beare moze fruit: and if you lop away superfluous boughes, they say, what a pitty is this? How many apples would these haue borne: not considering there may arise hurt to your Orchard, as well (nay rather) by abundance, as by want of wood. A sound and thriving plant in a good soyle, will ever yeld too much wood, and disorderly, but never too little. So that a skillfull and painfull Arborist, need neuer want matter to effect a plentifull and well dressed Orchard: for it is an easie matter to take away superfluous boughes (if your Gardener haue skill to know them) whereof your plants will yeld abundance, and skill will leaue sufficient well ordered. All ages both by rules and experience doe consent to a pruning and lopping of trees: yet haue not any that I know described vnto vs (except in darke and generall words, what or which are those superfluous boughes, which we must take away, and that is the chiefe and most needfull point to be knowne in lopping. And we may well assure our selues, (as in all other Arts, so in this) there is a bantage and betterity, by skill, and an habit by practise out of experience, in the performance hereof for the profit of mankind; yet doe I not know (let me speake it with the patience of our cunning Arborists) any thing within the compasse of humane affaires so necessary, and so little regarded, not only in Orchards, but also in all other timber trees, where or whatsoever.

Timber wood c-
will dress.

How many forests and woods: wherein you shall haue for one lively thriving tree, foure (nay sometimes 24.) euill thriving, rotten and dying trees, euen while they liue. And instead of trees thousands of bushes and shrubbes. What rottenesse: what hollownesse: what dead armes: withered tops: curtailed trunks: what loades of mosses: drooping boughes: and dying branches shall you see euery where? And those that like in this sort are in a manner all vnprofitable boughes, carked armes, crooked, little and short boales: what an infinite number of bushes, shrubs, and shrubs of hazels, thornes, and other profitable wood, which might be brought

brought by dressing to become great and goodly Trees. Consider now the cause: The lesser wood hath beene spoiled with carelesse, unskillfull, and untimely felling, and much also of the great wood. The greater Trees at the first rising haue filled and over-loaded themselves with a number of wastfull boughs and suckers, which haue not onely drained the sappe from the boale, but also haue made it knottie, and themselves and the boale mossie



The
cause of
hurts in
wood.

Imagine the root to be spread farre wider.

for want of dressing, whereas if in the prime of growth they had beene taken away close, all but one top (according to this patternne) and cleane by the bulke, the strength of all the sap should haue gone to the bulke, and so he would haue recovered and covered his knots, and haue put forth a faire, long and straight body (as you see) for timber profitable, huge great of bulke, and of infinite last.

If all timber Trees were such (will some say) how should we haue crooked wood for wheeles, cozbs, &c.

Dresse
timber
trees
how.

Ans.

Ans^r. Dresse all you can, and there will be enough crooked for these uses.

More than this, in most places, they grow so thicke, that neither themselves, nor earth, nor any thing under: or nere them can shine, nor sunne, nor raine, nor aire can do them, nor any thing nere or vnder them any profit or comfort.

I see a number of Wags, where out of one roote you shall see three or foure, (nay more) such as mens vnskillfull greedinesse, who desiring many haue none good) pretty Dakes or Ashes, straight and tall, because the roote at the first shot giues way amaine: but if one only of them might be suffered to grow, and that well and cleanly pruned, all to his very top, what a Tree should wee haue in time? And wee see by those rootes continually and plentifully springing, notwithstanding so deadly wounded: What a commodity should arise to the owner, and the common wealth, if wood were cherished, and orderly dressed.

Profit of
trees
dressed.

The waste boughs closely and skillfully taken away, would giue vs more of fences and setwell, and the bulke of the tree in time would grow of huge length and bignesse. But here (me thinks) I heare an vnskillfull Arborist say, that trees haue their seuerall formes, cūcti by nature, the Pearre, the Holly, the Aspe, &c. grow long in bulke with few and little armes: The Oke by nature broad, and such like. All this I grant: but grant me also, that there is a profitable end, and vse of euery tree, from which if it decline (tho by nature) yet man by art may (nay must) correct it. Now other end of Trees I neuer could learne, than good timber, fruit much and good, and pleasure. These physieall hinder nothing a good forme.

The end
of trees.

Trees
will take
any
forme.

Neither let any maner so much as thinke, that it is vnprovable, much lesse vnpossible, to reforme any tree of what kinde soeuer. For (beleeue me) I haue tried it, I can bring any tree (beginning by time) to any forme. The Pearre and Holly may be made to spread, and the Oke to close.

But why doe I wander out of the compasse of mine Orchard into the Forrests and woods? Neither yet am I from my purpose, if boales of timber trees stand in need of all the sap, to make them great and streight (for strong growth and dressing make strong trees) then it must needs be profitable for fruit (a thing

thing more immediately seruing a mans need) to haue all the sap his roote can yeild: for as timber sound, great and long, is the good of timber trees, and therefore they beare no fruit of worth: so fruit, good, sound, pleasant, great and much, is the end of fruitfull trees. What Gardener therefore shall performe his duty skillfully and faithfully, which shall so dresse his Trees, that they may beare such and such store of fruit, which he shall neuer doe (I dare undertake) vnlesse he keepe this order in dressing his Trees.

The end
of trees.

A fruit Tree so standing, that there neede none other end of dressing but fruit (not ornaments for walkes, nor delight to such as would please their eye only, and yet the best forme cannot but both adorne & delight) must be parted from within two foot (or thereabouts) of the earth, so high to giue liberty to dresse his roote, and no higher, for drinking by the sap that should feede his fruit, for the boale will be first, and best serued and fed, because he is next the roote, and of greatest waie and substance, and that makes him longer of life, into two, three, or foure armes, as your Rooke or grasses yeild twigs, and euery arme into two or more branches, and euery branch into his seuerall Cyons, still spreading by equall degrees, so that his lowest spray be hardly without the reach of a mans hand, and his highest be not past 2. yards higher, rarely (especially in the middlest) that no one twig touch his fellows. Let him spread as far as he list without any master-bough, or top equally. And when any bough doth grow sadder and fall lower, than his fellowes (as they will with weight of fruit) ease him the next spring of his superfluous twigs, and he will rise: when any bough or spray shall amount about the rest; either snub his top with a nip betwixt your finger and your thumbe, or with a sharpe knife, and take him cleane away, and so you may vse any Cyon you would reforme, and as your tree shall grow in stature and strength, so let him rise with his tops, but slowly, and early, especially in the middlest, and equally, and in breadth also, and follow him vpward with lopping his vnder growth and water-boughs, keeping the same distance of two yards, but not about three in any wise, betwixt the lowest and highest twigs.

How to
dresse a
fruit tree

Thus shall you haue well liking, cleane skin, healthfull, great, and long lasting trees.

Benefits
of good
dressing

2 Thus shall your Tree grow low, and safe from winds, for his top will be great, broad and weighty.

3 Thus growing broad, shall your trees beare much fruit (I dare say) one as much as five of your common trees, and good without shadowing, dropping, and fretting: for his boughs, branches, and twigs shall be many, and those are they (not the boale) which beare the fruit.

4 Thus shall your boale being little (not small but low) by reason of his shortnesse, take little, and yeld much sap to the fruit.

5 Thus your Trees by reason of strength in time of setting shall put forth more blossomes, and more fruit, being free from taints; for strength is a great helpe to bring forth much and safely, whereas weaknesse failes in setting though the season be calme.

Some vse to bare Trees roots in Winter, to stay the setting till hotter seasons, which I discommend, because,

1 They hurt the roots.

2 It staies it nothing at all.

3 Though it did, being but small, with vs in the North, they haue their part of our Aprill and Maies frosts.

4 Windvance cannot profit weake trees in the setting.

5 They waste much labour.

6 Thus shall your tree be easie to dresse, and without danger, either to the tree or the dresser.

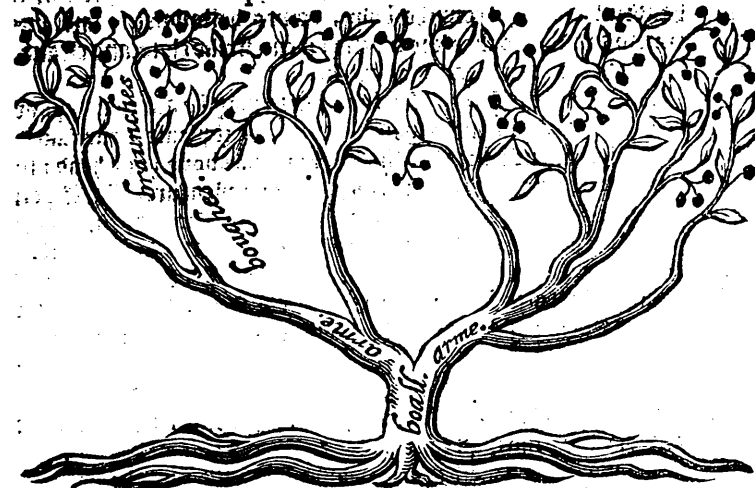
7 Thus may you safely and easily gather your fruit without falling, bruising or breaking of Cyons.

This is the best forme of a fruit-tree, which I haue here only shadowed out for the better capacity of them that are led more with the eye, than the mind, craving pardon for the deformity, because I am nothing skilfull either in painting or caruing.

Imagine that the paper makes but one side of the Tree to appeare, the whole round compasse will giue leaue for many more armes, boughs, branches and Cyons.

The

The perfect forme of a Fruit tree.



If any thinke a tree cannot well be brought to this forme: *Experto crede Roberto.* I can shew diuers of them vnder twenty yeares of age.

The fittest time of the Poone for prouning is as of grafting, when the sap is ready to stirre (not proudly stirring) and so to couer the wound, and of the yere, a month before (or at least when) you graffe. Dresse Peares, Apricoks, Peaches, Cherries, and Bullys sooner. And old trees before young plants, you may dresse at any time betwixt Lease and Lease. And note, that where you take any thing away, the sap the next summer will be putting: be sure therefore when he puts a bud in any place where you would not haue him, rub it off with your finger.

And heere you must remember the common homely Pro-uerbe: Soone crookes the tree that good Camrell must bee. Beginne betime with trees, and doe what you list: but if you let them grow great and stubborne, you must doe as the trees list. They will not bend but breake, nor be wound without danger. A small branch will become a bough, and a bough an arme in bignesse. When if you cut him, his wound will fester, and hardly, without good skill, recouer: therefore, obsta-

Faults of euill drest trees, & the remedie. The forme altered.

principijs. Of such wounds, and lesser, or any bough cut off a handfull or more from the body, comes holstnesse, and untimely death. And therefore when you cut, strike close, and cleane, and upwards, and leaue no bunch.

This forme in some cases sometimes may be altered: If your tree, or trees, stand nere your Walkes, if it please your fanctie more, let him not bzeake, till his boale be aboue your head: so may you walke vnder your trees at your pleasure. Or if you set your fruit trees for your shades in your Groues, then I respect not the forme of the tree, but the comelineesse of the walke.

Dressing of old trees. All this hitherto spoken of dressing, must be vnderstood of young Plants, to be formed: it is more somewhat be said for the instruction of them that haue old trees already formed, or rather deformed: for, malum non vitatur nisi cognitum. The faults therefore of a disordered tree, I finde to be these: 1. An vnprofitable boale: 2. Waterboughes: 3. Fretters: 4. Suckers: and 5. The principall top.

A long boale asketh much feeding, and the more he hath the more he desires, and gets (as a drunken man drinke, or a couetous man wealth) and the lesse remaines for the fruit, he puts his boughes into the aire, and makes them, the fruit, and it selfe more dangered with winde: for this I know no remedie, after that the tree is come to growth, once euill, neuer good.

Water boughes. Water boughes, or vndergrowth, are such boughes as grow low vnder others and are by them ouergrowne, ouershadowed, dropped on, and pinde for want of plentie of sap, and by that meanes in time die: For the sap presseth vpward; and it is like water in her course, where it findeth most issue, thither it floweth, leauing the other lesser sucres dy:euene as wealth to wealth, and much to more. These so long as they beare, they beare lesse, worse, and fewer fruit, and waterish.

Remedy The remedie is easie, if they be not growne greater than your arme. Lop them close & cleane, & couer the middle of the wound, the next Summer when he is drie, with a salue made of tallow, tar, & a very little pitch, good for the couering of any such wound of a great tree: vnlesse it be barke-pild, and then a scar-cloth of fresh Butter, Honey, and Ware, presently (while the wound is greene) applyed, is a soueraigne remedie in summer especially. Some bind such wounds with a thumbe rape of Hay, moist and rub it with dung.

Fret-

Fretters are, when as by the negligence of the Gardener, two, or more parts of the tree, or of diuers trees, as armes, boughs, branches, or twigs, grow so nere and close together, that one of them rubbing, doth wound another. This fault of all other theues the want of skill, or care (at least) in the Arbozist: for here the hurt is apparant, and the remedie easie, sene to betime: galls and wounds incurable, but by taking away those members: for let them grow, and they will be worse and worse, and so kill themselves with chull life for roynth, and danger the whole tree. Auoid them betime therefore, as a common-wealth doth his enemies.

A Sucker is a long, proud, and disorderly Cyp, growing straight vp (for pride of sap makes proud, long & straight growth) out of any lower parts of the tree, receiuing a great part of the sap, and bearing no fruit, till it haue tyrannized ouer the whole tree: These are like idle and great Drones amongst Bees; and proud and idle members in a common-wealth.

The remedie of this is, as of water-boughes, vnlesse he be growne greater, then all the rest of the boughs, and then your Gardener (at your discretion) may leaue him for his boale, and take away all, or the most of the rest. If he be little, slip him, and set him, perhaps he will take: my fairest Apple-tree was such a Slip.

One or two principall top boughs are as euill, in a manner, as Suckers, they rise of the same cause, and receiue the same remedie: yet these are more tolerable, because these beare fruit, yea the best: but Suckers of long age not beare.

I know not how your tree should be faulty, if you reforme all your vices timely, and vnderly. As these rules serue for dressing young trees and sets in the first planting: so may they well serue to helpe old trees, though not exactly to recouer them.

The Instruments fittest for all these purposes, are most commonly: For the great Trees an handsome, long, light Ladder of Firpoles, a little, nimble, and strong armed Saw, and Sharpe. For lesse Trees, a little and sharpe Hatchet, a broad mouthed Chisell, strong and sharpe, with an handle, your strong and sharpe Cleauer, with a knock, and (which is a most necessary Instrument amongst little Trees) a great hatted and sharpe Knife or Whittle. And as needfull is a

Stole

3.
Fretters.
Touching.
Remedy.

4.
Suckers.

Remedy

5.
One
princi-
pal top or
bough,
and re-
medy.

Instru-
ments
for dress-
ing.

Stole on the top of a Ladder of eight or nine rungs, with two backe feet, whereon you may safely and easfully stand to graffe, to dresse, and to gather fruit, thus formed: The feet may be fast wedged in: but the Ladder must hang loose, with two bands of iron. And thus much of drelling trees for fruit, formally to profit.



CHAR. XII.

Of Foyling.

Necessi-
ry of foy-
ling.



Here is one thing yet very necessary for to make your Orchard both better, and more lasting: yea, so necessary, that without it your Orchard cannot last, nor prosper long, which is neglected generally both in precepts and in practise, viz. manuring with Foile: whereby it hapneth that when trees (amongst other evils) through want of fatnesse to feede them, become mossie, and in their growth are euill (or not) thriuing, it is either attributed to some wrong cause, as age (when indeed they are but young) or euill standing (stand they neuer so well) or such like, or else the cause is altogether vnknowne, and so not amended.

Trees
great
suckers.

Great
bodies.

Can there be deuilled any way by nature, or art, sooner or sounder to seeke out, and take away the heart and strength of earth, than by great trees? Such great bodies cannot be sustained without great stoies of sap. What liuing body hath you greater than of trees? The great Sea-monsters (whereof one came a land at Teesmouth in Yorkshire, hard by vs, 18. yards in length, and nere as much in compass) faime hideous, huge, strange, & monstrous, because they be indeed great: but especially, because they are seldome seene: But a tree liuing, come to his growth and age, twice that length, and of a bulke neuer so great, besides his other parts, is not admired, because he is so commonly seene. And I doubt not, but if he were well regarded from his kinnell, by succeeding ages, to his full strength, the most of them would double their measure. About fifty yeeres agoe I heard by credible and constant report, That in Brotham Parke in West-moore-land, neere vnto Penrich, there lay a blotne

blotne Lake, whose Trunke was so bigge, that two Horsemen being the one on the one side, and the other on the other side, they could not ong for another: to which if you adde his armes, boughs, and roots, and consider of his bignesse, what would he haue bene, if preserued to the bantage. Also I read in the History of the West-Indians, out of Peter Martyr, That strikene mentaking hands one with another, were not able to fathom one of those trees about. How nature hauing giuen to such a faculty by large and infinite roots, talles and tangles, to draw immediatly his sustenance from our common mother the Earth (which is like in this point to all other mothers that beare) hath also ordained that the Tree ouer-loden with fruit, and wanting sap to feed all she hath brought forth, will waine all she cannot feed, like a woman bringing forth more children at once then she hath teats. See you not how Trees especially, by kind being great, standing so thicke and close, that they cannot get plenty of sap, pine away all the grasse, weeds, lesser shrubs, and trees, yea and themselves also for want of bigge of sap: So that trees growing large, sucking the soile whereon they stand, continually, and amaine, and the foyson of the earth that feeds them decaying (for what is there that wastes continually, that shall not haue end?) must either haue supply of sucken, or else leane thriuing and growing. Some grounds will beare Cozne while they be new, and no longer, because their crust is shallow, and not very good, and lying high they scind and wash, and become barren. The ordinary Cozne soiles continue not fertill, without following and foyling, and the best requires supply, euen for the little body of Cozne. How then can wee thinke that any ground (how good soeuer) can sustaine bodies of such greatnesse, and such great feeding, without great plenty of Sap arising from good earth? This is one of the chiefe causes, why so many of our Orchards in England are so euill thriuing when they come to growth, and our fruit so bad. Men are loth to bestow much ground, and desire much fruit, and will neither set their trees in sufficient compass, nor yet feed them with manure. Wherefore of necessity Orchards must be soiled.

The fittest time is, when your Trees are growne great, Time for foyling.
and haue nere hand spread your earth, wanting new earth to sustaine ling.

Kind of
foyle.

folke the which if they do, they will seeke abroad for better
earth, and shew that, which is barren (if they find better) as ear-
tenthill pastering. For nature hath taught every creature to
winter and seeke his owne good, and to auoid hurt. The best time
of the yeere is at the fall, that the frost may bite and make it
tender, and the raine wash it into the roots. The summer time
is perillous if ye dig, because the saye stirs amaine. The best
kinde of soyle is such as is fat, hot, and tender. Your earth
must be but lightly opened, that the dung may goe in, and wash
away; and but shallow, lest you hurt the roots: & in the spring,
closely and equally made plaine againe for feare of Suckers.
I could wish, that after my Trees haue fully possessed the soyle
of mine Orchard, that every seuen yeeres at least, the soyle were
bespread with dung halfe a foot thicke at least. Diddle water
out of the dunghill poured on plentifully, will not only moisten
but fatten, especially in June and July. If it bee thicke and fat
and applied every yeere, your Orchard shall need none other sei-
ling. Your ground may lye so low at the Riuer side, that the
flood standing some daies and nights thereon, shall saue you all
this labour of soiling.

CHAP. XIII.

Of Annoyances.



Chiefe helpe to make every thing good, is
to auoid the evils thereof: You shall neuer
attaine to that good of your Orchard you
looke for, vntill you haue a Gardener, that
can discerne the diseases of your trees, &
other annoyances of your Orchard, & find
out the causes thereof, and know & apply
fit remedies for the same. For be your ground, stre, plants, and
trees as you would wish, if they be wasted with hurtful things,
what haue you gained but your laboz for your trauel? It is with
an Orchard & every tree, as with mans body. The best part of
physicke for preservation of health, is to foresee & cure diseases.

All the diseases of an Orchard are of two sorts, either inter-
nall or externall. I call those inward hurts which breed on and
in particular trees.

Two
kinds of
evils in
an Or-
chard.

1 Galls.

1 Galls.

2 Canker.

3 Mousse.

4 Weaknes in setting.

Galls, Canker, Mousse, weaknesse, though they bee diuers
diseases: yet (howsoever Authoys thinke otherwise) they rise
all out of the same cause.

Galls we haue described with their cause and remedy, in
the 11. Chapter vnder the name of fretters.

Canker is the consumption of any part of the tree, barke and
wood, which also in the same place is deciphered vnder the title
of water-boughes.

Mousse is sensibly seene and knowne of all, the cause is pointed
out in same Chapter, in the discourse of Timber-wood; and par-
tylly also the remedy: But for Mousse adde this, That at any time
in summer (the Spring is best) when the cause is removed, with
an Harcloth, immediately after a showze of raine, rub off your
Mousse, or with a peere of waxe (if the Mousse abound) formed like
a great knife.

Weaknesse in the setting of your fruit shall you finde there
also in the same Chapter, and his remedy. All these flow from
the want of roomth in good soyle; wrong planting, Chap. 7. and
euill or no dressing.

Barke-bound (as I thinke) riseth of the same cause, and the
best, and present remedy (the causes being taken away) is with
your sharpe knife in the Spring, length-way to launch his barke
thoroughout, on thye or foure sides of his boale.

The disease called the Worme is thus discerned: The barke
will be hoald in diuers places like gall, the wood will die & dry, &
you shall see easily the barke swell. It is verily to be thought,
that therein is bred some worme. I haue not yet thorowly sought
it out, because I was neuer troubled therewithall: but only haue
seene such trees in diuers places. I thinke it a worme rather, be-
cause I see this disease in trees, bringing fruit of sweet taste, & the
swelling shewes as much. The remedy (as I coniecture) is so
sone as you perceiue the wound, the next spring cut it out barke
& all, and apply Cowes pisse & vinegar presently, and so twice or
thrice a weeke for a Moneths space: For I well perceiue, if
you suffer it any time, it eates the tree or bough round, & so kills.

Remedy

G 2

Since

fruit trees aforesaid Chapter 12. To which it is ordained, and I would especially name Wkes, Elmes, Alhes, and such other great wood, but I doubt it should be taken as an admission of lesser trees: for I think of nothing to grow in mine Orchard but Fruit and Flowers. If Day can hardly be good to save our Fruit-trees, why should we allow of any other, especially those, that will become their spawners, and wrong them in their livelyhood.

And although we admit without the fence of Walnuts in most plaine places, Trees middle-most, and Alhes or Wkes, or Elmes utmost, set in comely rows equally distant with faire Allies twixt row and row to avoid the boisterous blasts of winds, and within them also others of lesser Trees; yet we admit none of this into your Orchard-plot: other remedy then this have we none against the nipping frosts.

Weeds in a fertile soil (because the generall curse is so) till your Trees grow great, will be noysome and defoyme your allies, walkes, beds, and squares, your vnder Gardners must labour to keepe all cleanly and handsome from them, and all other unprofitable weeds, mowing knives, rake with iron teeth: a shovell of Iron thus formed;

For the roots and ground they affeare the worse.

When the roots, straw, sticks, and all other scrapings are gathered together, bury them not, but bury them under your crust in any place of your Orchard, and they will dye and fatten your ground.

When the roots are open the earth, and let in aire to the roots of your Trees, & defoyme your squares and walkes, & feeding in the earth, being in number infinite, & do to on barrenness.

Wormes may easily be destroyed. Any summer evening when it is darke after a shower with a Candle, you may kill many of them, but you must tread nimble. And where you cannot come to catch them so; sift the earth with coale ashes an inch or two thickness, and that is a plague to them, so is sharpe gravel.

Spales will anger you if your Gardener or some skilfull Spale-catcher ease you not, especially hauing made their fortresses among the roots of your trees: you must watch her well with a Spole;

Winds.
Frosts.

Weeds.

Remedy

Wormes
Moles.

Remedy

Spole-speare, at morne, none, and night, when you see her amongst hill, cast a Trench betwixt her and her home (for the bath is principall mansion, so do well and heed in about April, which you may discern by a principall hill, wherein you may catch her, if you trench it round and sure, and watch well) or: wherefore you can discern a single passage (for such the bath) there trench, and watch, and haue her.

Willfull annoyances must be prevented and avoided by the fence of the spawner and fruturer, which they beare to their Orchard.

Justice and liberality will put away euill neighbours of euill neighbour-hood. And then (if God bleste and giue successe to your labours) I see not what hurt your Orchard can suffer.

CHAP. XIII.

Of the Age of Trees.



It is to be considered, that this Treatise of trees tends to this end, that men may know and plant Orchards, wherein to there cannot be a better inducement then that they know (or at least be persuaded) that all that benefit they shall receive thereby, whether of pleasure or profit, shall not be for a day or a month, or one, or many (but many hundred) yeeres. Of good things the greatest, and most durable is alwaies the best. If therefore out of reason grounded upon experience, it be made (I thinke) manifest, but I am sure probable, that a fruit-tree in such a soile and site, as is described so planted and trimmed and kept, as is afoze appointed and duly soiled, shall dure 1000. yeeres, why should we not take pines, and be at two or three yeeres charge (for under seven yeeres will an Orchard be perfected for the first planting, and in that time be brought to fruit) to reape such a commodity and so long lasting.

Let no man thinke this to be strange, but peruse and consider the reason. I haue Apple-trees standing in my little Orchard, which I haue knowne these forty yeeres, whose age before my time, I cannot learne, it is beyond memory, tho I haue enquired of diners aged men of 80. yeeres and upwards: these trees although come into my possession very euill aged,

Willfull
annoy-
ances.
Remedy

The age
of trees.

Gathered
by reason
out of ex-
perience.

red.

red, with a pen, and one of them wounded to his heart, and that deadly (for I know it will be his death) with a wound, wherein I might have put my fist in the heart of his bulke (now it is less) notwithstanding, with that small regard they have had since, they so like, that I assure my selfe they are not come to their growth by more than 2. parts of 3. which I discern not only by their owne growth, but also by comparing them with the bulke of single trees. And I find them short (at least) by so many parts in bignesse, although I know those other fruit trees to have bene much hindered in their stature by euill guiding. Wherefore I gather this.

Parts of
a Trees
age.

If my tree be a hundred partes old, and yet want two hundred of their growth before they leape exceeding, which make three hundred, then we must needs resolve, that this three hundred partes are but the third part of a Trees life, because (as all things lining besides) so Trees must haue allowed them for their increase one third, another third for their stand, and a third part of time also for their decay. All which time of a Tree amounts to nine hundred partes, three hundred for increase, three hundred for his stand, whereof we haue the tearme stature, and three hundred for his decay, and yet I thinke (for we must compare by comparing, because no one man liueth to see the full age of Trees) I am within the compasse of his age, supposing alwaies the foresaid meanes of preserving his life. Consider the age of other liuing creatures. The Horse and mouled Ore wrought to an untimely death, yet double the time of their increase. A Dog likewise increaseth three, stands three at least, and in as many (or rather more) decays. Euery liuing thing bestowes the least part of his age in his growth, and so must it needs be with Trees. A man comes not to his full growth and strength (by common estimation) before thirty yeeres, and some slender and cleane bodies, not till forty, so long also stands his strength, and so long also must hee haue allowed by course of nature to decay. Euer supposing that he bee well kept with necessaries, and from and without straines, bruises, and all other dominyng diseases. I will not say vpon true report, that Physicke holds it possible, that a cleane body kept by these 3. Doctors, Doctor Dyer, Doctor Qui-er, and Doctor Merriman, may liue nere a hundred yeeres.

Neither

Neither will I heere bidge the long yeeres of Methushalah, and those men of that time, because you will say, Spans dayes are shortned since the flood. But what hath shortned them? God for mans finnes: but by meanes, as want of knowledge, euill gouernement, ryot, gluttony, drunkennes, and (to be short) the encrease of the curse, our finnes increasing in an iron and wicked age.

Now if a man, whose body is nothing (in a manner) but tender rottenesse, whose course of life cannot by any meanes, by counsell, restraint of lawes, or punishment, nor hope of praise, profit, or eternall glory, be kept within any bounds, who is degenerate cleane from his naturall feeding, to effeminate nicenesse, and cloying his body with exesse of meat, drinke, sleepe, &c. and to whom nothing is so pleasant and so much desired as the causes of his owne death, as idlenesse, lust, &c. may liue to that age: I see not but a tree of a solide substance, not dammed by heate or cold, capable of, and subiect to any kinde of ordering or dressing, that a man shall apply vnto him, feeding naturally, as from the beginning disburdened of all superfluities, eated of, and of his owne accord avoiding the causes that may annoy him, should double the life of a man, more than twice told; and yet naturall philosophy, and the vniuersall consent of all Histories tell vs, that many other liuing creatures farre exceed man in the length of yeeres: As the Hart and the Raven. Thus reporteth that famous Roterodam out of Hesiodus, and many other Historiographers. The testimony of Cicero in his booke De Senectute, is weighty to this purpose: that we must in posteritas etates ferere arbores, which can haue none other fence: but that our fruit trees, whereof he speaks, can endure for many ages.

What else are trees in comparison with the earth: but as haire to the body of man? And it is certaine, without poisoning, euill and distemperate dyet, and blage, or other such forcible cause, the haire dure with the body. What they be called excrements, it is by reason of their superfluous growth: (for cut them as often as you list, and they will still come to their naturall length.) Not in respect of their substance, and nature. Haires endure long, and are an ornament and vse also to the body, as trees to the earth.

Mans
age.

So that I resolve upon good reason, that fruit-trees well ordered, may live and like a thousand yeeres, and beare fruit, and the longer, the more, the greater, and the better, because his vigour is proud and stronger, when his yeeres are many: You shall see old trees put their buds and blossomes both sooner and more plentifully than yong trees by much. And I sensibly perceine my yong trees to enlarge their fruit, as they grow greater, both for number, and greatnesse. Yong Weilers bring not sothy Calues so faire, neither are they so plentifull to milke, as when they become old Kings. A good Housewife will breed of a yong but an old bird-mother: It is so in all things naturally, therefore in trees.

The age of
timber
trees.

And if fruit-trees last to this age, how many ages is it to be supposed, strong and huge timber trees will last: whose huge bodies require the yeeres of diuers Methushalahes; before they end their dayes, whose Sap is strong and bitter, whose Warke is hard and thicke, and their substance solid and firme: all which are defences of health and long life. Their strength withstands all forcible winds, their sap of that quality is not subject to wormes and tainting. Their bark receiues seloms a) neuer by casualty any wound, and not onely so, but he is free from remouals, which are the death of millions of trees, whereas the fruit tree in comparison is little, and often blowne downe, his sap sweet, easily, and soone tainted, his barke tender, and soone wounded, and himselfe vled by man, as man vled by himselfe, that is either unskillfully, or carelessly.

Age of
trees dis-
cerned.

It is good for some purposes to regard the age of your fruit trees, which you may easily know, till they come to accomplish twenty yeeres, by his knots: reckon from his root by an arme, and so to his top-twig, & every yeeres growth is distinguished from other by a knot, except lopping or remouing doeth hinder.

CHAP. XV.

Of gathering and keeping Fruit.

Although it be an idle matter, when God shall send it, to gather and keepe fruit, yet are they certaine things worthy your regard. You must gather your fruit when it is ripe, and not before, else will it wither and be tough and sofwe. All fruit generally are ripe, when they beginne to fall.

Generall
Rule.

fall. For Trees doe as all other beaers doe, when their yong ones are ripe, they will waime them. The Dove her Pigeons, the Cony her Rabbits, and women their children. Some fruit trees sometimes getting a faine in the setting with a frost or euill winde, will cast his fruit untimely, but not before he leaue giuing them sap, or they leaue growing. Except fro this foresaid rule, Cherries, Damsons, and Bullies. The Cherry is ripe when he is steele wholly red, and sweet: Damsons and Bullies not before the first frost.

Apples are knowne to bee ripe, partly by their colour, Apples growing towards a yellow, except the Leathercoat and some Peares and Greening.

Timely Summer fruit will be ready, some at Midsummer, When most at Lammas for present vse; but generally no keeping fruit before Michael tide. Hard Winter fruit and Wardens longer.

Gather at the full of the Moone for keeping, gather dry, for Dry stalkes, feare of rotting.

Gather the stalkes withall: for a little wound in fruit, is deadly: but not the stump, that must beare the next fruit, nor leaues, for moisture putrefies.

Gather every kinde severally by it selfe, for all will not keep severally, alike, and it is hard to discern them, when they are mingled.

If your trees be ouer-laden (as they will be, being ordered, Overladen as is before taught you) I like better of pulling some off (the trees they be not ripe) neere the top end of the bough, then of propping by much, the rest shall be better fed. Propping puts the bough in danger, and frets it at least.

Instruments: A long Ladder of light Firre: A scale-ladder as in the 11. Chapter. A gathering appon like a poake before you, made of purpose, or a Waller hang on a bough, or a basket with a fine bottom, or skinn bottom, with Lathes or splinters vnder, hung in a rope to pull by & down: huise none, Bruises, every huise is to fruit death: if you doe, vse them presently. An hooke to pul boughs to you is necessary, break no boughes.

For keeping, lay them in a dry Loft, the longest keeping. Apples first and furthest on dry straw, on heapes ten or foureene dayes, thicke, that they may sweat. Then dry them with a soft & cleane cloth, and lay them thinne abroad, Long keeping

fruit would bee turned once in a moneth softly: but not in noz immediatly after frost. In a loft couer well with straw, but rather with chaffe or bran: For frost doth cause tender rottenness.

CHAP. XVI. Of Profits.

Now pause with your selfe, and view the end of all your labours in an Orchard: unspeakable pleasure, and infinite commoditie. The pleasure of an Orchard I referre to the last Chapter for the conclusion: and in this Chapter, a word or two of the profit, which thozowly to declare is past my skill: and I count it as if a man should attempt to adde light to the Sunne with a Candle, or number the Starres. No man that hath but a meane Orchard or Iudgement but knowes, that the commoditie of an Orchard is great: Neither would I speake of this, being a thing so manifest to all; but that I see, that through the careless laziness of men, it is a thing generally neglected. Wnt let them know, that they lose hereby the chiefest good which belongs to housekeeping.

Compare the commoditie that cometh of halfe an acre of ground, set with fruit trees and herbs, so as is prescribed, and a whole Acre (say it be two) with Cozne, or the best commoditie you can wile, and the Orchard shall exceed by diuers degrees.

Cydar and
Perry.

In France and some other Countries, and in England, they make great vse of Cydar and Perry, thus made: Dresse every Apple, the stalk, upper end, and all galled away; stamp them, and straine them, and within 24. houres tunne them vp into cleane, sweet, and sound vessels, for feare of euill ayre, which they will readily take: and if you hang a foote full of Cloues, Mace, Nutmegs, Cinamon, Ginger, and pills of Lemmons in the midst of the vessel, it will make it as wholesome and pleasant as wine. The like vseage doth Perry require. These drinks are very wholesome, they coole, purge, and prevent hot Agues. But I leave this skill to Physicians.

Fruit.

The benefit of your Fruit, Rootes and Herbs, though it were but to eate and sell, is much.

Waters.

Waters distilled of Roses, Woodbine, Angelica, are both profitable and wonderful pleasant, and comfortable.

Saffron

Saffron and Lycosas will yeeld you much Conserues and Preserues, are ornaments to your Feasts, health in your Sickness, and a good helpe to your friend, and to your purse.

He that will not be moued with such unspeakable profits, is well worthy to want, when others abound in plenty of good things.

CHAP. XVII. Ornaments.

Me thinks hitherto we haue but a bare Orchard for fruit, and but halfe good, so long as it wants those comely Ornaments, that should giue beauty to all our labours, and make much for the honest delight of the owner and his friends.

For it is not to be doubted: but as God hath giuen man things profitable, so hath hee allowed him honest comfort, delight, and recreation in all the works of his hands. Nay, all his labours vnder the Sunne without this are troubles, and vexation of minde: For what is greedy gain, without delight, but moping, and turmoyling in slavery? But comfortable delight, with content, is the good of euery thing, and the pattern of heauen. A morsell of bread with comfort, is better by much than a fat Oxe with tranquillity.

Delight
the chiefe
end of
Orchards.

And who can deny, but the principall end of an Orchard, is the honest delight of one wearied with the works of his lawfull calling? The very works of, and in an Orchard & Garden, are better than the ease and rest of and from other labours. When God had made man after his owne Image, in a perfect state, and would haue him to represent himselfe in authority, tranquillity, & pleasure vpon the earth, he placed him in Paradise. What was Paradise? but a Garden and Orchard of trees and herbs, full of all pleasure: & nothing there but delights. The gods of the earth resembling the great God of heauen in authority, Maiesie, and abundance of all things, wherein is their most delight? And whither doe they withdraw themselves from the troublesome affayres of their estate, being tyed with the hearing and iudging of litigious Controuersies? choked (as it were) with the close ayres of their sumptuous buildings, their stomacks cloyed with varietie of Banquets, their eares filled & overburthened with tedious discouragements?

An Or-
chard de-
lightful.

An Or-
chard is
Paradise.

Causes of
wearisome-
ness.

Orchard is *Inthither: but into these Orchards: made and prepared, de-
theremedy. sed and destined for that purpose, to renew and refresh their
Tences, and to call home their over-wearied spirits. Nay, it is
(no doubt) a comfort to them, to set open their Eyesments in-
to a most delicate Garden and Orchard, whereby they may not
onely see that, wherein they are so much delighted, but also to
give fresh, sweet, and pleasant ayze to their Galleries and
Chambers.*

All delight in Or- *And looke, what these men doe by reason of their greatnesse
chards. and abilitye provoked with delight, the same doubtlesse would
every of us doe, if power were answerable to our desires,
whereby we may manifestly, that of al other delights on earth,
they that are taken by Orchards, are most excellent, and most
agreeing with nature.*

This de- *For whereas every other pleasure commonly fills some one
lights all the senses, and that onely, with delight, this makes all our
the senses. senses swimme in pleasure, and that with infinit variety, joy-
ned with no lesse commodity.*

Delighteth *That famous Philosopher, & matchlesse Orator, M. T. C:
old age. prescribeth nothing more fit, to take away the tediousnesse
and heavy load of thye or foure score yeres, than the pleasure
of an Orchard.*

Causes of *What can your eye desire to see, your eares to heare, your
delight in an Orchard, mouth to taste, or your nose to smell, that is not to be had in an
Orchard. some than an infinite varietie of sweet smelling flowers? deck-
ing with sundry coloures, the Greene mantle of the Earth, the
univiersall Mother of us all, so by them bespotted, so dyed, that
all the world cannot sample them, and wherein it is more fit to
admire the Dyer, than imitate his workmanship. Colouring
not onely the earth, but decking the ayze, and sweetning every
breath and spirit.*

Flowers. *The Rose red, damaske, beluet, and double double p'ouince
Rose, the sweet muske Rose double and single, the double and
single white Rose. The faire and sweet senting Woodbinde,
double and single, and double double. Purple Cowslips, and
double Cowslips, and double double Cowslips. Primrose
double and single. The Violet nothing behind the best, for
smelling sweetly. And 1000. more will p'ouoke your content.*
And

And all these, by the skill of your Gardiner, so comely, and Borders and
orderly placed in your Borders and Squares, and so intermin. squares.
gleb. that none looking thereon, cannot but wonder, to see, what
Nature corrected by Art can doe.

When you behold in diuers corners of your Orchard Mounts.
Mounts of Stone, or wood curiously wrought within and with- Whence
out, or of earth covered with fruit-trees: Kentish Cherry, you may
Damsons, plummies, &c. With staires of precious workman- shoote a
ship. And in some corner (or mo) a true Dyall or Clocke, and Bucke.
some Anticke woakes, & especially silver sounding Musique, Dyall.
mist Instruments and voices, gracing all the rest: How will Musique.
you be rapt with delight?

Large Walkes, broad & long, close and open, like the Tempe Walkes.
groves in Thebalie, raised with gravel and sand, having seats Seats.
and banks of Camomile, all these delights the minde, & byings
health to the body.

Wise men with delight the woakes of your own hands, Order of
your fruit trees of all sorts, laden with sweet blossomes, and trees.
fruit of all tastes, operations, and colours: your trees standing
in comely order which way soever you looke.

Your borders on every side hanging and drooping with Fe-
berries, Raspberries, Warberries, Currans, and the roots of
your trees potozed with strawberries, red, white, and
greene, what a pleasure is this? Your Gardiner can frame
your lesser wood to the shape of men armed in the field, ready Shape of
to give battell: or swift running Greyhounds: or of well sen- men and
ted and true running Hounds, to chase the Deere, or hunt the beasts.
Hare. This kinde of hunting shall not waste your coyne, nor
much your coyne.

Mayes well franted a mans height, may perhaps make your Mazes.
friend wander in gathering of beeries, till hee cannot recover
himselfe without your helpe.

To have occasion to exercise within your Orchard: it shall Bowle
be a pleasure to have a Bowling Alley, or rather (which is Ally.
more manly and more healthfull) a paies of Butts, to stretch Buts.
your gunnes.

Rosemary and Stewed Comptine are sweetly ornaments Hearbs.
about a Doze or twintie in a Woodbinde.

Take, Chap. 17. and you shall see the forme of a Con- Conduit.
duit.

built. If there were trees or more, it were not amiss.

River. And in mine opinion, I could highly commend your Orchard, if either thou lov'st it, or hard by it there should runne a pleasant River with silver streames: you might sit in your Mount, and angle a pecciled Trout; or flightle Cele, or some other Fish. Or Moats, whereon you might row with a Boat; and fish with Nets.

Bees. Store of Bees in a dry and warme Bee-house, comely made of fir-boords, to sing, and sit, and feed upon your flowers and sprouts; make a pleasant noyse and sight. For cleanly and innocent Bees, of all other things, loue and become, and thriue in an Orchard. If they thriue (as they must needs, if your Gardiner be skillfull, & loue them: for they loue their friends, and hate none but their enemies) they will, besides the pleasure, yeeld great profit, to pay him his wages. Yea, the increase of twenty Stocks or Stooles, with other fees, will keep your Orchard. You need not doubt their stings, for they hurt not whom they know, and they know their keeper and acquaintance. If you like not to come amongst them, you need not doubt them: for but neere their store, and in their owne defence, they will not fight, and in that case onely (and who can blame them?) they are mainly, and fight desperately. Some (as that Honourable Lady at Hacknes, whose name doth much grace mine Orchard) use to make seats for them in the Stone wall of their Orchard, or Garden, which is good, but wood is better.

Vine. A Vineauer shadowing a seat, is very comely, though her Grapes with vs ripe slowly.

Birds. One chiefe grace that adorns an Orchard, I cannot let slip: A brood of Nightingales, who with their fenerall notes and tunes, with a strong delightfome voice, out of a weak body, will beare you company night and day. She loues (and lues in) hots of woods in her heart. She will helpe you to cleanse your trees of Caterpillers, and all noisome wozmes and eyes. The gentle Robin-red-breast will helpe her, and in Winter in the coldest stozmes will keepe a part. Neither will theilly Wren be behinde in Summer, with her distinct whistle (like a sweet Recorder) to cheere your spirits.

Black-bird. The Black-bird and Thistle (for I take it the Thistle sings not,

not, but denoures) sing loudly in a May morning, and delights the eare much (and you need not want their company, if you haue ripe Cherries or Berries, and would as gladly as the rest doe you pleasure:) But I had rather want their company than my fruit.

What shall I say? 1000. of delights are in an Orchard: and sooner shall I be weary, then I can reckon the least part of that pleasure, which one that hath and loues an Orchard, may finde therein.

What is there of all these set to that I haue reckoned, which doth not please the eye, the eare, the smell, and taste? And by these senses as Organes, Pipes, and Windows, these delights are carried to refresh the gentle, generous, and noble minde.

To conclude, what toy may you haue, that you liuing to Your owne such an age, shall see the blessings of God on your labours labour. while you liue, and leaue behinde you to your heires or successors (for God will make heires) such a worke, that many ages after your death, shall recozd your loue to your Country? And the rather, when you consider (Chap. 14.)

to what length of time your worke is like to last.

FINIS.

I

THE COUNTRY HOUSEWIVES

GARDEN.

*Containing Rules for Hearbs and Seeds
of common vse, with their times and seasons,
when to set and sow them.*

TOGETHER.

With the Husbandry of Bees, published with secrets
very necessary for euery Housewife.

As also diuers new Knots for Gardens.

The Contents see at large in the last Page.

GEN. 2. 29.

*I haue ginen vnto you euery Herbe, and euery tree, that shall
be to you for meate.*



London printed for Roger Iackson. 1623.

THE COUNTRY HUSBANDS GARDEN.

CHAP. I.

The Soyle.



The Soyle of an Orchard & Garden, differ
chiefly in these three points: First, the
Gardens Soyle would be somewhat dryer,
er, because hearbs being more tender
than trees, can neither abide moisture
nor drought, in such excessive measure,
as trees; and therefore having a dryer
Soyle, Remedy is easie against drought,

if need be: water soundly, which may bee done with small la-
bour, the compass of a garden being nothing so great, as of an
Orchard, and this is the cause (if they know it) that Gardiners
raile their Squares: but if moisture trouble you; I see no re-
medy without a generall danger, except in Hops, which be-
light much in a low and sappy earth.

Secondly, the Soyle of a Garden would be plaine and leuell, Plaine.
at least every square (for we suppose the square to be the fittest
forme) the reason: the earth of a Garden wanting such helpes,
as should stay the water, which an Orchard hath, and the roots
of hearbs being short, and not able to fetch their liquoz from the
bottom, are more annoyed by drought, and the Soyle being
mellow and loose, is soone either washed away, or sends out his
heart by too much drenching and washing.

Thirdly, if a garden Soyle be not cleere of weeds, and namely,

of grasse, the hearbs shall neuer thrive: for how should good hearbs prosper, when evil weeds were so fast: considering good hearbs are tender, and easily overcome, these being stronger, and more hardy. And whereas these have small place in comparison, and therefore may the more easily be fallowen; at the least one halfe yeere before, and the better ordered after it is framed. And you shall finde that cleane keeping doth not onely avoid danger of gathering weeds, but also is a speciall ornament, and leaves more plentifull sap for your tender hearbs.

CHAP. II.

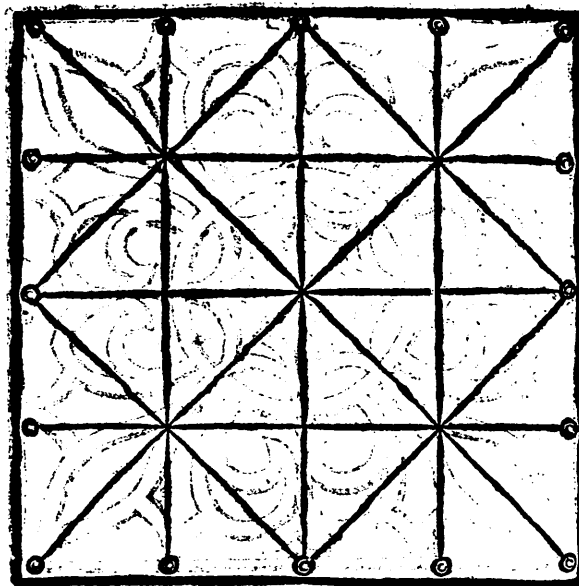
Of the Site.

I Cannot see in any sort, how the Site of the one should not be good, and fit for the other: The ends of both being one, good, wholesome, and much fruit joyner with delight, but these trees be more able to abide the ripping frosts than tender hearbs: but I am sure, the flowers of trees are as soon perished with cold, as any hearbe except Pompons, and Melons,

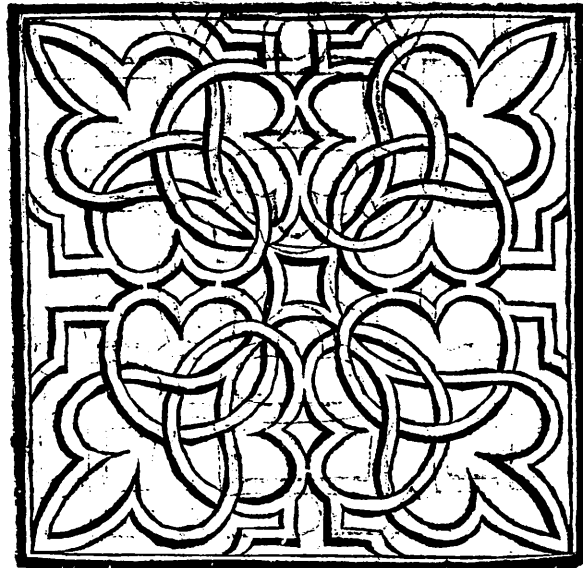
CHAP. III.

Of the forme.

Let that which is said in the Orchard be said, suffice also for a Garden in generall: but for speciall formes in squares, they are as many, as there are devices in Gardiners braines. Neither is the wit and art of a skilfull Gardiner in this point not to be commended, that can make more variety for breeding of more delightfull choise, and of all those things, where the owner is able and desirous to be satisfied. The number of formes, spaces and knots is so great, and men are so diversly delighted, that I leave every Housewife to her selfe, especially seeing to set downe many, had been but to fill much paper; yet lest I deprive her of all delight and direction, let her view these few, choise, new formes, and note this generally, that all plots are square, and all are boorded about with Pistia, Kailins, Feaberries, Roses, Thyme, Rosemarie, Box-flowers, Hop, Sage, or such like.



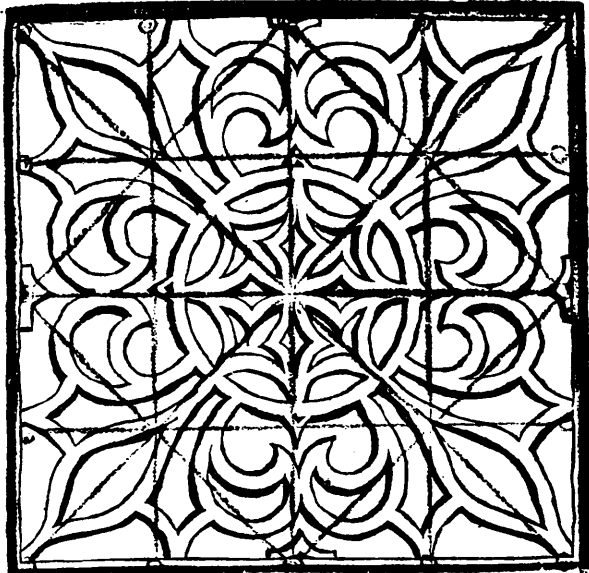
The ground plot for Knots.



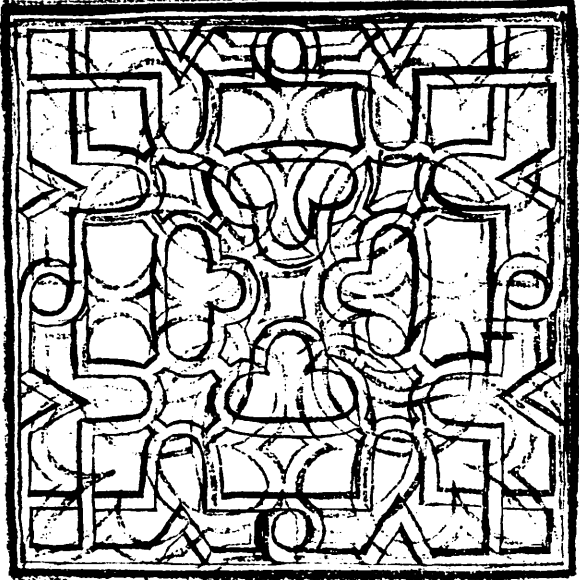
Cinkfoyle.

4:

Flower-
deluce.



The Tre-
foyle.

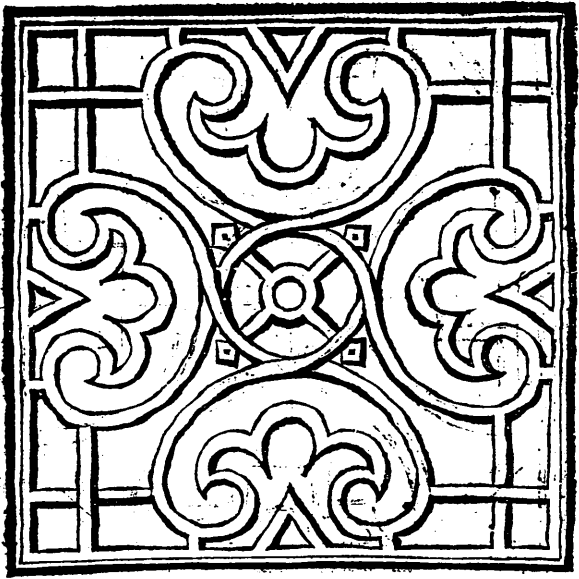


The Country Housewives Garden.

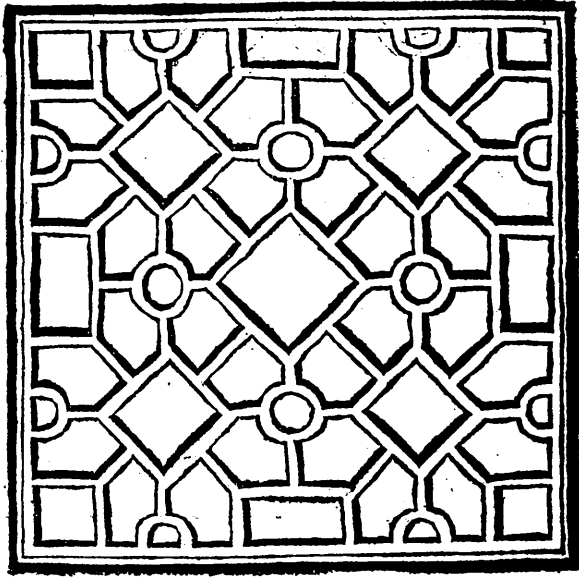
The Country Housewives Garden.

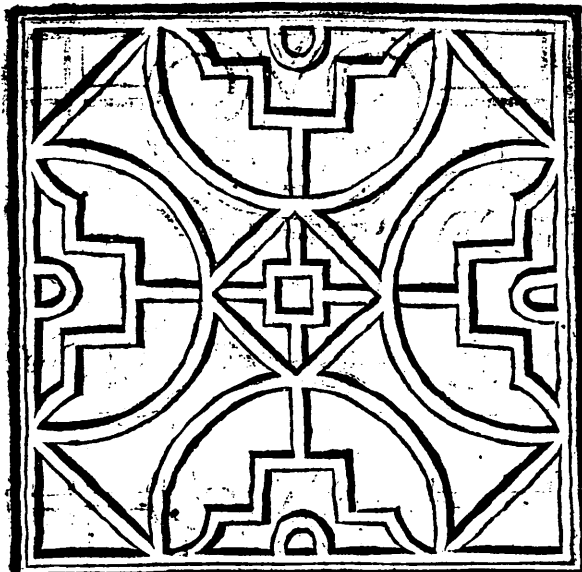
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The Fret.

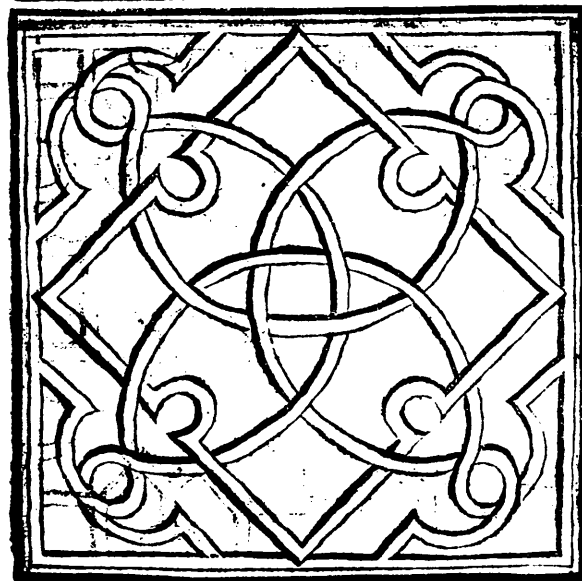


Lozengers.

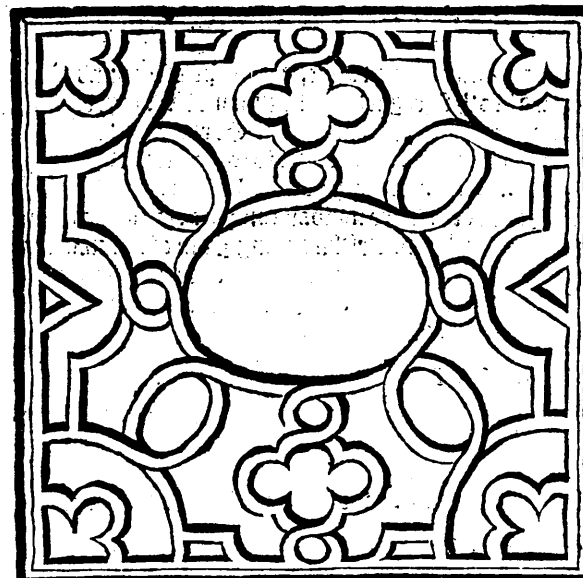


Crosse.
bowe.

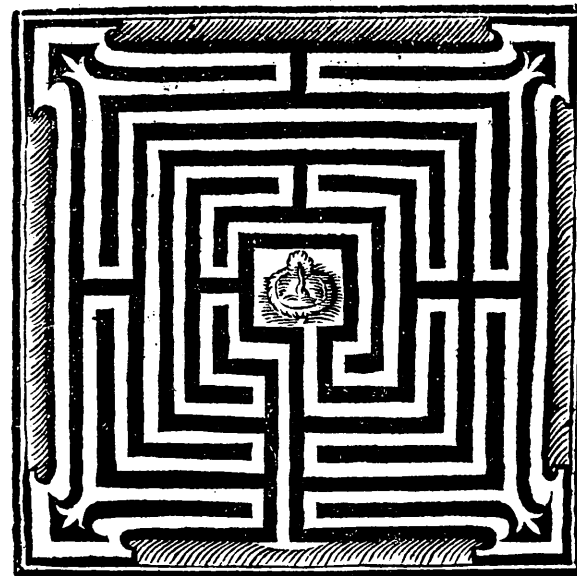
Diamond.



Ovall.



Maze.



CHAP. IIII. Of the Quantitie.

A Garden requireth not so large a scope of ground as an Orchard, both in regard of the much Weeding, Weeding and removing, and also the paines in a Garden is not so well repayed home, as in an Orchard. It is to be granted, that the Kitchen garden doth yeeld rich gaires by Berries, Rootes, Cabbages, &c. yet these are no way comparable to the fruits of a rich Orchard: but notwithstanding I am of opinion, that it were better for England, that we had more Orchards and Gardens, and more large. And therefore we leave the quantitie to every mans ability and will.

CHAP. V. Of Fence.

Seeing we allow Gardens in Orchard plots, and the benefit of a Garden is much, they both require a strong & shadowing fence. Therefore leaning this, let vs come to the hearbs themselves, which must be the fruit of all these labours.

CHAP. VI. Of two Gardens.

Hearbs are of two sorts, and therefore it is meete (they requiring diuers manners of Husbandry) that wee haue two Gardens: A Garden for flowers, & a Kitchen Garden: or a Summer Garden, and a Winter Garden: not that wee meane to perfect a distinction, that y^e Garden for flowers should or can be without hearbs good for the Kitchen, or the Kitchen Garden should want flowers, nor on the contrarie: but for the most part they would be seuered: first, because your Garden flowers shall suffer some disgrace, if among them you intermingle Onions, Parsnips, &c. Secondly, your Garden that is durable, must be of one forme: but that, which is for your Kitchens use, must yeeld daily rootes, or other hearbes, and suffer deformitie. Thirdly, the hearbes of both will not be both alike ready, at one time, epyther for gathering, or removing. First therefore.

Of the Summer Garden.

These hearbes & flowers are comely & durable for squares and knots, and all to be set at Michael-tide, or somewhat before,

before, that they may be settled in, and taken with the ground, before Winter, though they may bee set, especially sowne in the Spring.

Roses of all sorts (spoken of in the Orchard,) must bee set. Some use to set slippes and twine them, which sometimes, but seldome thriue all.

Rosemary, Lauender, Be-flowers, Hop, Sage, Time, Cowslips, Hyony, Daffies, Cloue Gilliflowers, Pinkes, Southernwood, Allies, of all which hereafter.

Of the Kitchen Garden.

Though your Garden for flowers doth in a sort peculiarly challenge to it selfe a profit, and exquisite forme to the eyes, yet you may not altogether neglect this, where your hearbs for the pot doe grow. And therefore, some here make comely borders with y^e Hearbs aforesaid. The rather because abundance of Roses and Lauender yeeld much profite, and comfort to the senses: Rosewater and Lauender, the one coz-diall (as also the Violets, Burrage, & Buglas) the other reuining the spirits by the sence of smelling: both most durable for smell, both in flowers and water: you need not here raise your beds, as in the other Garden, because Summer towards, will not let too much wet annoy you. And these hearbs require more moisture: yet must you haue your beds diuided, that you may go betwixt to weede, & somewhat forme would be expected: To which it auailleth, that you place your hearbs of biggest growth, by walles, or in borders, as Fenell, &c. and the lowest in the middell, as Daffion, Strawberries, Onions, &c.

CHAP. VII.

Diuision of hearbs.

Garden hearbs are innumerable, yet these are common and sufficient for our Country Housewives.

Hearbs of greatest growth.

Fenell, Angelica, Tansie, Hollyhock, Louage, Elly Că-pane, French Pailowes, Lyllies, French Poppie, Endiue, Succory, and Clarke.

Hearbs of middle growth.

Burrage, Buglas, Parlie, Sweet Sicillye, Flower deluce, Stocke Gillyflowers, Wall-flowers, Anniseeds, Coziander, Feather-fewell, Parigolds, Oculus Christi, Langdivease, Alexanders, Carduus Benedictus.

Hearbs of smallest growth.

Pansye, or Pans ease, Coast Pargeram, Sauery, Strawberies, Saffron, Lycorais, Daffadownillies, Leskes, Chines, Chibals, Skerots, Onions, Batchelors buttons, Daisies, Pennyroll.

Hitherto I haue onely reckoned by, & put in this rank, some hearbs. Their husbandry folloiw each in an Alphabetical order, the better to be found.

CHAP. VIII.

Husbandry of Hearbs.

Alexanders are to be renewed as Angelica. It is a timely Pot-hearbe.

Angelica is renewed with his seede, whereof he beareth plenty the second yeere, and so dyeth. You may remove the roots the first yeere. The leanes distilled, yeld water souveraigne to expell paine from the stomacke. The roote dyed taken in the fall, stoppeth the pores against infections.

Annyseedes make their growth, and beareth seedes the first yeere, & dyeth as Coriander: it is good for opening the pipes, and it is used in Comfits.

Artichoakes are renewed by dividing the roots into sets, in March, every third or fourth yeere. They require a severall place, and therefore a severall whole plot by themselves, especially considering they are plentifull of fruite much desired.

Burrage & Buglas, two cordials, renew themselves by seede yeerely, which is hard to be gathered: they are exceeding good Pot-hearbs, good for Biles, and most comfortable for the heart and stomack, as Quinches and Wardens.

Camomile, set rootes in bankes and walkes. It is sweet smelling, quallifying headache.

Cabbages require great roome, they seede the second yeere: sowe them in February, remove them when the plants are an handfull long, set deepe and wet. Looke well in drought for the white

white Caterpillers worime, the spaunes under the leafe closely: for every living Creature doth seek food and quiet shelter, and growing quicke, they draw to, and eat the heart: you may find them in a raine or dewie morning. It is a good Pot-hearbe, and of this Hearb called Cole, our Country Housewives give their pottage their name, and call them Caell.

Carduus Benedictus, or blessed thistle, seeds and dyes the first yeere, the excellent vertue thereof I referre to Verbalis: for we are Gardiners, not Physicians.

Carrets are sowne late in Aprill or May, as Turneps, else they seede the first yeere, and then their roots are naught: the second yeere they dye, their rootes grow great, and require large roome.

Chibals or Chiucs have their rootes parted, as Garlick, Lilies, &c. and so are they set every third or fourth yeere: a good pot-hearbe opening, but euill for the eyes.

Clarie is sowne, it seeds the second yeere, and dyes. It is somewhat harsh in taste, a little in pottage is good, it strengtheneth the reins.

Coast, Rootes parted make sets in March: it beares the second yeere: it is used in Ale in May.

Coriander is for usage and bies, much like Anniseeds.

Daffadownillies have their rootes parted, and set once in thye or foure yeere, or longer time. They flower timely, and after Midsummer, are scarcely scene. They are moze for ornament, than use, so are Daisies.

Daisye rootes parted and set, as Flower-delace and Camomile, when you see them grow too thicke or decay. They be good to keepe by, and strengthen the edges of your borders, as Pinkes, they be red, white, mixt.

Ellycampane root is long lasting, as is the Louage, it seed yeerely, you may divide the root, and set the root, taken in Winter it is good (being dyed, powdered and drunk) to kill itches.

Endiue and Succory are much like in nature, shape, and bies: they renew themselves by seed, as Fennell, and many other hearbs. You may remove them before they put forth Shank: a good Pot-hearbe.

Fennell is renewed, either by the seeds (which it beareth the second

second yeere, and so yeerely in great aboundance) sowe in the fall or spring, or by diuiding one root into many sets, as Artichoke, it is long of growth and life. You may remoue the root vntil thank. It is exceeding good for the eyes, distilled, or any otherwise taken: it is used in dressing Plures for swarmes, a very good Botheerbe, or for Ballets.

Fetherfewle shakes seed. Good against a shaking Feuer, taken in a posset or inke fasting.

Flower-deuce, long lasting. Diuide his roots, and set: the rootes dyed haue a sweet smel.

Garlicke may be set an handfull distance, two inches deepe, in the edge of your beds. Part the heads into seuerall clones, and euery clone set in the hinder end of February, will increase to a great head before September: good for opening, euill for eyes: when the blade is long, fast two and two together, the beads will be bigger.

Hollyhocke riseth high, seedeth and dyeth: the chiefe vse I know is ornament.

Isope is reasonable long lasting: young rootes are good to set, slips better. A good Botheerbe.

Iuly-flowres; commonly called Gilly-flowres, or Cloues. Iuly-flowres (I call them so, because they blowe in Iuly) they haue the name of Cloues, of their sent. I may well call them the King of Flowres (except the Rose) the best sort of them, are called Queene-Iuly-flowres. I haue of them nine or ten seuerall colours, and diuers of them as bigge as Roses: of all flowres (saue the Damaske Rose) they are the most pleasant to sight and smell: they last not past thre or foure yeeres vntremoued. Take the slips (without shankes) and set any time, saue in extreme frost, but especially at Michael tide. Their vse is much in ornament, and comforting the spirits, by the sence of smelling.

Iuly-flowres of the Wall, or Wall Iuly-flowres, Wall-flowres, or Bee-flowres, or Winter Iuly-flowres, because growing in walles, euen in Winter, and good for Bees, will grow euen in stone walles, they will seeme dead in Summer, and yet reuine in Winter. They yeeld seed plentifully, which you may sow at any time, or in any broken earth, especially on the top of a mudd wall, but mayst, you may set the root before it

it be chauncht, euery slip that is not rotted, will take root, or crop him in Summer, and he will flower in Winter: but his winter seed is vntimely. This and Palmes are exceeding good, and timely for Bees.

Leekes yeeld seed the second yeere, vntremoued and die, but lesse you remoue them. vsuall to eate with salt and bread, as Onyons alwayes greene, good Botheerbe, euill for the eyes.

Lauender Spike would be remoued with in fouen yeeres eight at the most. Slips twined as Pop and Sage, would last best at Michael tyde. This flower is good for Bees, most comfortable for smelling, except Roses: and kept by, is as strong after a yeere, as when it is gathered. The water of this is comfortable.

White Lauender would be remoued sooner.

Lettice yeelds seed the first yeere, and byes: sow betime, and if you would haue them Cabbage for Ballets, remoue them as you doe Cabbage. They are vsuall in Ballets, and the pot.

Lillies white and red, remoued once in thre or foure yeeres their rootes yeeld many sets, like the Garlicke. Michael tide is the best: they grow high, after they get roote: these rootes are good to breake a Wyle, as are Gallioines and Royell.

Mallows French, or gagged, the first or second yeere, seed plentifully: sow in March, or before, they are good for the house-wifes pot, or to breake a bunch.

Marigolds most commonly come of seed, you may remoue the Plants, when they be two inches long. The double Mart-gold, being as bigge as a little Rose, is good for the eye. They are a good Botheerbe.

Oculus Christi, or Christs eye, seeds and byes the first or second yeere: you may remoue the young Plants, but seed is better: one of these seeds put into the eye, within thre or foure houres will gather a thicke skinn, cleere the eye, and balt it selfe forth without hurt to the eye. A good Botheerbe.

Onyons are sowe in February, they are gathered at Michael tide, and all the Summer long, for Ballets; as also young Parsly, Sage, Chibals, Lettice, sweet Sicilly, Fennell, &c. good alone, or with meate as sputton, &c. for sauce, especially for the pot.

Parsly sow the first yeere, and vse the next yeere: it seedes plen-

plentifully, an hearbe of much vse, as sweet Sicily is. The seed and roots are good against the stone.

Parneps require an whole plot, they be plentiful and common: sow them in February, the Wings (that is in the middle) seed broadest and reddest. Parneps are sustenance for a strong stomack, not good for euill eyes: When they couer the earth in a drought, to tread the tops, make the rootes bigger.

Any-royall, or Pudding Grass, creeps along the ground, grows June. It lasts long, like Daisies, because it puts and spreads daily new rootes. Divide, and remoue the rootes, it hath a pleasant taste and smell, good for the pot, or backt meate, or Pudding.

Pumpions: Set seeds with your finger, a finger deepe, late in March, and so soon as they appeare, euery night if you doubt frost, couer them, and water them continually out of a water-pot: they be very tender, their fruit is great and waterish.

French Poppy beareth a faire flower, and the seed will make you sleepe.

Raddish is sauce for sloped stomacks, as Capers, Olives, and Cucumbers, eat the seedes all Summer long here and there, and you shall haue them all yeares yong and fresh.

Rosmary, the greatest Hearbe in England, in other Countreies common. To set slips immediately after Lammias, is the surest way. Seede sowne may proue well, so they be sowne in hot weather, somewhat moist, and good earth: for the Hearbe, though great, is neth and tender (as I take it) brought from hote Countreies, so as in the cold North, lett it grow. It becomes a Window well. The vse is much in meate, more in Physick, most for Wees.

Rue, or Hearbe of Grace, continually greene, the slips are set. It lasts long, as Rosmary. Soberness, &c. too strong for mine Housewife's pot: unless she will buy Ale that she buy, against the Plague: let him observe, if you will haue him last.

Saffron, euery third yeere his rootes should be remoued at Midsummer: for when all other hearbes grow most, it dyeth. It groweth at Michael tide, and groweth all Winter: keepe his flowers from birds in the morning, and gather the yelloe (for they shape much like the Lilies) by, and after dry them: they

they be precious, expelling diseases from the heart & stomacke.

Sauery seeds and dyes the first yeere, good for my Housewives pot and pye.

Sage: set slips in May, and they grow aye: Let it not seed, it will last the longer. The vse is much and common. The Spanish Prouerbe is tritum:

Cur moritur homo, cum salvia crescit in horto:

Skerrets, the roots are set when they be parted, as Pyonic, and flower beluce at Michael tide: the root is but small and very sweet. I know none other speciall vse but the Table.

Sweet Sicily, long lasting, pleasantly tasting, either the seed sowne, or the root parted, and remoued, makes increase, it is of like vse with Parsly.

Strawberries long lasting, set rootes at Michael tide, or the spring, they be red, white and greene, and ripe, when they bee great and soft, some by Midsummer with vs. The vse is: they will coole my Housewife well, if they bee put in Wine or Creame with Sugar.

Time, both seeds, slips and rootes are good. If it seed not, it will last three or foure yeeres or more, it smelleth comfortably. It hath much vse: namely, in al cold meates, it is good for Wees.

Turnep is sowne. In the second yeere they beare plenty of seede: they require the same time of sowing that Carrets doe: they are sick of the same disease that Cabbages be. The roote increaseth much, it is most wholesome, if it be sowne in a good and well tempered earth: Soueraigne for eyes and Wees.

I reckon these hearbes onely, because I teach my Countrey Housewife, not skilfull Artits, and it should be an endlesse labour, and would make the matter tedious to reckon by, Land-beefe, Stocke-Iuly-flowers, Charuall, Valerian, Go-to-bed-at-noone, Piony, Licoras, Tansie, Garden-mints, Germaner, Centaurie, and a thousand such physicke Hearbs. Let her first grow cunning in this, and then she may enlarge her Garden, as her skill and abilitie increaseth. And to helpe her the more, I haue set her sowne these obseruations.

CHAP. IX.

Generall Rules in Gardening.

In the South parts Gardening may be more timely, & more safely done, than with vs in Yorkshire, because our ayre is not so favourable, nor our ground so good.

2 Secondly most seeds shakt, by turning the good earth, are renewed, their mother the earth keeping them in her bowels, till the Sunne their Father can reach them with his heat.

3 In setting hearbs, leaue no top more then an handfull above the ground, nor more than a foot vnder the earth.

4 Twine the rootes of those slippes you set, if they will abide it. Gilly-flowers are too tender.

5 Set most, and some dry.

6 Set slips without shanks at any time, except at winter, summer, and in frosts.

7 Seeding spoiles the most rootes, as drawing the heart and sap from the root.

8 Gather for the pot and medicines, hearbs tender and Greene, the sap being in the top, but in winter the root is best.

9 All the hearbs in the Garden for flowers, should once in seven yeeres be renewed, or soundly watered with poodle water, except Rosemarie.

10 In all your Gardens and Orchards, banks and seats of Camomile, Penny-royall, Daisies and Violets, are seemely and comfortable.

11 These require whole plots: Artichokes, Cabbages, Turneps, Parsneps, Onions, Carrets, and (if you will) Saffron, and Scerrets.

12 Gather all your seeds, dead, ripe, and dry.

13 Lay no dung to the rootes of your hearbs, as vsually they doe: for dung not melted is too hot, euen for trees.

14 When setting and sowing (so the rootes stand not past a foot distance) is profitable, for the hearbs will like the better. Greater hearbs would haue more distance.

15 Set and sow hearbs in their time of growth (except at

Aut-

Autumner, for then they are too tender) but trees in their time of rest.

16 A good Housewife may, and will gather Rose of hearbs for the pot, about Lammes, and dry them, and powder them, and in winter they will make good seruise.

Thus haue I lined out a Garden to our Countrey Housewives, and giuen them rules for common hearbs. If any of them (as sometimes they are) be knotty, I refer them to chap.

3. The skill and paines of weeding the Garden with weeding Weeding, knives of fingers, I referre to them selues, and their maids, willing them to take the opportunitie after a shower of raine: withall I aduise the Mistresse, either to be present her selfe, or A good note, to teach her maids to know hearbs from weeds.

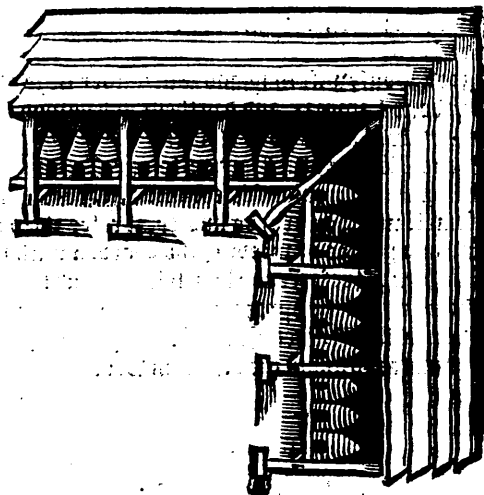
CHAP. X.

The Husbandry of Bees.

There remaineth one necessarie thing to bee prescribed, which in mine opinion makes as much for ornament as either Flowers, or for me, or cleantinesse, and I am sure as commodious as any of, or all the rest: which is Bees, well ordered. And I will not account her any of my good Housewives, that wanteth either Bees or skilfulnesse about them. And though I know some haue written well and truly, and others more plentifully upon this Theame: yet somewhat haue I learned by experience (being a Bee-master my selfe) which hitherto I cannot finde put into writing, for which I thinke our Housewives will count themselves beholding vnto me.

The first thing that a Gardiner about Bees must be careful for, is an house not stakes and stones abroad, Sub dio: for stakes rot and reele, raine and weather eate your hives, and couers, and cold moft of all is hurtfull for your Bees. Therefore you must haue an house made along, a sure dry wall in your Garden, neere, or in your Orchard: for Bees loue Flowers and wood with their hearts.

Beehouse.



This is the forme, a frame standing on posts with a floze (if you would have it hold more Hives, two flozes boorded) laid on Bearers, and bathe posts, covered over with boords, slate-well. Let the flozes be without holes or clefts, lest in casting time, the Bees lye out, and loyter. And though your Hives stand within an hand-breadth the one of another: yet will Bees know their owne home. In this frame may your Bees stand by and warme, especially if you make boozes like dozes of windowes to shrowd them in winter, as in an house: provided you leave the Hives monthes open. I my selfe have devised such an house, and I finde that it keepeo and strengthens my Bees much, and my Hives will last fire to one.

Hives.

Mr. Markam commendes Hives of wood. I discommend them not: but Strato Hives are in use with us, and I thinke with all the world, which I commend for nimblenes, closenesse, warmnes and dyverse. Bees love no external motions of dawbling or such like. Sometimes occasion shall bee offered to lift and turne Hives, as shall appeare hereafter. One light entire hive of straw in that case is better, than one that is dawbled, weighty and cumbersome. I wish every hive, for a keeping swarme, to hold thye pecks at least in measure. For too little Hives procure

cure Bees, in casting time, either to lye out, and loyter, or else to cast before they bee ripe and strong, and so make weak swarmes and untimely: Whereas if they have room sufficient, they ripen timely, and casting seasonably, are strong, and fit for labour presently. Neither would the hive be too too great, for then they loyter, and waste meat and time.

Your Bees delight in wood, for feeding, especially for casting: therefore want not an Orchard. A Mayes swarme is Bees. worth a Hares Foale: if they want wood, they be in danger of flying away. Any time before Midsummer is good, for casting and timely before July is not evill. I much like Mr. Markams opinion for hiving a swarme in combs of a dead or forsaken hive, so they be fresh and cleanly. To thinke that a swarme of your owne, or others, will of it self come into such an hive, is a meere conceit, Experto crede Roberto. His sneering with honey, is to no purpose, for the other Bees will eate it up. If your swarme knit in the top of a tree, as they will, if the winds beate them not to fall downe: let the Foale or ladder described in the Orchard, doe you service.

The lesse your Spelkes are, the lesse is the waste of your honey, and the more easily will they draw, when you take your Bees. Four Spelkes atwart, and one top Spelke are sufficient. The Bees will fatten their Combes to the Hive. A little honey is good: but if you want, Fennell will serve to rub your Hive withall. The Hive being drest and ready spelt, rub and the hole made for their passage (I use no hole in the Hive, but a piece of wood boord, to save the hive and keep out mice) wake up your Bees, or the most of them (for all commonly you cannot get) the remainder will follow. Many use smoke, Pettles, &c. which I utterly dislike: for Bees love not to be molested. Kinging in time of casting is a meere fancie, violent handling of them is simply evill, because Bees of all other creatures, love cleanness and peace, therefore handle them leisurely and quietly, and their keeper whom they know, may doe with them, what he will, without hurt: Being hived at night, bring them to their seat. Set your Hives all of one yere together.

Signes of breeding, if they be strong.

1 They will avoid dead young Bees and Drones.

2 They

2 They will sweat in the morning, till it runne from them; alwaies when they be strong.

Signes of casting.

1 They will flye Droanes, by reason of heat.

2 The yong swarme will once or twice in some faire season, come forth mustering, as though they would cast, to proue themselves, and goe in againe.

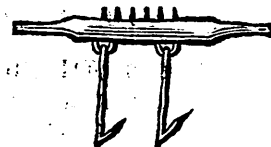
3 The night before they cast, if you lay your eare to the Hives mouth, you shall heare sdo or thzee, but especially one above the rest, cry, Up, bp, bp; or, Tont, tont, tont, like a trumpet, sounding the alarum to the battell.

Such descanting there is, of, and about the Passer-bee, and their degrees, orders, and government: but the truth in this point is rather imagined, then demonstrated. There are some conjectures of it, viz. we see in the Combes divers greater houses than the rest, and we heare commonly the night before they cast, sometimes one Bee, sometimes two, or more Bees, give a low and severall sound from the rest, and sometimes Bees of greater bodies than the common sort: but what of all this? I leane not on conjectures, but lye to set downe that I know to be true, and leave these things to them that lye to divine. Bees now weake, so; it is hazard, oftentimes with losse: Feeding will not helpe them: so; being weake, they cannot come downe to meat, or if they come downe, they dye, because Bees weake cannot abide cold. If none of these, yet will the other Bees being strong, smell the honey, and come and spoile, and kill them. Some helpe is in casting time, to put two weake swarmes together, or as M. Markam well saith: Let them not cast late, by raising them with wood or stone: but with imps (say I.) An imp is thzee or foure weathes, wrought as the hine, the same compasse, to raise the hine withall: but by experience in tryall, I have found out a better way by Clustering, so; late or weake swarmes hitherto not found out of any that I know. What is this: After casting time, if I have any stocke proud, and hindered from timely casting, with former Winters pouertie, or enill weather in casting time, with two handles & crookes, fitted for the purpose, I turne by that stock to pestered with Bees, and set it on the crooke, upon which so turned with the mouth upward, I place another empty hine

Catching.

Clustering.

hine well prest, and spelt, into which without any labour, the swarme that would not depart, and cast, will presently ascend, because the old Bees have this qualitie (as all other breeding creatures have) to expell the young, when they have brought them by. Where will the swarme build as kindly, as if they had of themselves been cast. But bee sure you lay betwixt the hines some straight and cleanly sticke or stiches, or rather a board with holes, to keepe them asunder: otherwise they will loyne their woorkes together so fast, that they cannot be parted. If you so keepe them asunder at Michael-tide, if you like the weight of your swarme (so; the goodnesse of swarmes is tried by weight) so; caught, you may set it by so; a stocke to keepe. Take heed in any case the combs be not broken, so; then the other Bees will smell the honey, and spoyle them. This have I tried to be very profitable for the saving of Bees. The Instrument hath this forme. The great straight piece is wood, the rest are iron claspes and nayles, the claspes are loose in the stapes: Two men with two of these fastened to the hine, will easily turne it by.



They gather not till Iuly; so; then they be discharged of their young, or else they are become now strong to labour, and now sap in flowers is strong and proud: by reason of time, and force of sunne. And now also in the month (and not before) the herbs of greatest vigour put their flowers; As Beanes, Fennell, Burrage, Rape, &c.

The most seasonable weather for them, is heat, & drought, because the new Bee can neither abide cold or wet: and showers (which they well foresee) doe interrupt their labours, unless they fall on the night, and so they further them.

After casting time, you shall benefit your stocks much, if you helpe them to kill their Droanes, which by all probability and iudgement, are an idle kinde of Bees, and wastefull. Some say they breed and have seen yong Droanes in taking their honey, which I know is true. But I am of opinion, that there are also Bees which have lost their stings, and so being, as it were gelded, become idle and great. There is great use

Droanes.

of them: Deus, et natura nihil facit frustra. They hate the bees, and cause them cast the sooner. They neuer come forth but when they be ouer heaped: They neuer come from labour: After casting time, and when the Bees want meat, you shall see the labouring Bees fasten on them, two, threes, or foure at once, as if they were thienes to be led to the gallows, and killing them, they cast out, and dray them farre from home, as hateful enemies. Our Housewife, if she be the Keeper of her owne bees (as she had need to be) may with her bare hand in the heat of the day, safely destroy them in the hives mouth. Some vse towards night, in a hot day, to set before the mouth of the hive a thin board, with little holes, in at which the lesser bees may enter, but not the drones. So that you may kill them at your pleasure.

Annoyances.

Snayles spoile them by night like therses: they come so quietly, and are so fast, that the Bees feare them not. Look early and late, especially in a rainie or dewy evening or morning.

Spice are no lesse hurtfull, and the rather to hives of Strato: and therefore coverings of Strato dray them: They will in eyther at the mouth, or thiere themselves an hole. The remedie is good Cats, Cats-bane and watching.

The cleanly Bee hateth the smelke as poison; therefore let your Bees stand neerer your garden, than your Biers-house or kitchen.

They say Sparrowes & Swallowes are enemies to Bees, but I see it not.

Moze hives pearish by winters cold, than by any other hurts: For the bee is tender and nice, and anely lues in warme weather, and dyes in cold: And, therefore let my Housewife bee perswaded, that a warme dry house before described, is the chiefest help she can make her bees against this, and many moze mischiefs. Many vse against cold in winter, to stop vp their hives close, and some set them in houses, perswading themselves, that thereby they relieue their bees. First, toasing and mouing is hurtfull. Secondly, in houses, going, knocking, & shaking is noysome. Thirdly, too much heate to an house is unnatural for them: but lastly, and especially, Bees cannot abide to be kept close vp. For at every warme season of the sun they re-

uine,

nine, and lining rate, and eating much needs purge abroad, (in her house) the cleanly Bee will not purge her selfe. Tyme you what it is for, any living creature, not to be laden nature. Being kept vp in cold houses, stop your eares to the hives, and you shall hate them yarme and pest, as to many hungred prisoners. Therefore imbound not your Bees, so profitable and free a creature.

Let none stand above three peeres, else the combes will be blacke and knotty, your honey will be thin and vncleanly: and if any cast after three peeres, it is such as hage swarmes, and old Bees kept all together, which is great losse. Smoaking with ragges, rozin, or humstone, many vse: Some vse drayning in a tub of cleane water, & the water well bzeade, will be good botcher. Drayn out your spelles immediately with a paire of pinchars, lest the wood grow soft and swell, & so will not be drayne, then must you cut your hives.

Let no fire come neere your hives, for fire softeneth the ware, and dole, and makes them runne with the hony. Fire softeneth, weakeneth, and blindereth hony for purging. Breake your Combes small (when the dead empty combes are parted from the laden combes into a Bie, boyle ouer a great bolle, or vessell, with two stanes, and so let it runne two or three dayes. The sooner you tunne it vp, the better will it purge. Runne your swarme honey by it selfe, and that shall be your best. The elder your Hives are, the worse is your honey.

Usuall vessels are of clay, but after wood be satiated with Honey (for it will leake at first: for Honey is marvellously searching, the thicke, and therefore vertuous) I vse it rather because it will not bzeake so soone, with falls, frosts, or otherwise, and greater vessels of clay will hardly last.

When you vse your honey, with a spoone take off the skin which it hath put vp.

And it is woorth the regard, that Bees thus bled, if you haue but forty stocks, shall yeeld you moze comodity clearly than forty acres of good ground. And thus much may suffice, to make good Housewives lone and haue good Gardens and Bees.

FINIS.

Deo laus.

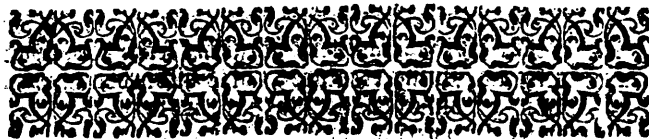
SP 2

The

Taking of Bees.

Srayning honey.

Vessels.



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A



A MOST PROFITABLE

new Treatise, from approued experience of
the Art of propagating Plants : by

Simon Harward.

CHAP. I.

The Art of propagating Plants.



Here are foure sorts of Planting, or propagating, as in laying of Shootes or little branches, while they are yet tender in some pit made at their footes, as shall be said hereafter, or upon a little ladder or Basket of Earth, tyed to the bottome of the branch, or in boaring a Willow thowow, and putting the branch of the Tree into the hole, as shall be fully declared in the Chapter of Grafting. There are likewise seasons to propagate in; but the best is in the Spring, and March, when the Trees are in the Flower, and doe begin to grow lussy. The young planted Stens or little Grafts must be propagated in the beginning of Winter, a foot deepe in the earth, and good manure mingled amongst the earth, which you shall cast forth of the pit, wherein you meane to propagate it, to tumble it in upon it againe. In like manner your superfluous Stens, or little Plants must be cut close by the earth, when as they grow about some small Tree, which we meane to propagate, for they would doe nothing but rot. For to propagate, you must digge the earth round about the tree, that so your rootes may be laid in a man-

ner halfe bare. Afterward draw into length the pit on that side where you meane to propagate, and according as you perceive that the rootes will be best able to yeeld, and be governed in the same pit, to ste them, and that with all gentleness, and stop close your Steens, in such sort, as that the weath which is in the place where it is grafted, may bee a little lower then the Steens of the new Wood, growing out of the earth, even so high as it possible may be. If the trees that you would propagate be somewhat thicke, and thereby the harder to ply, and somewhat thicke to lay in the pit: then you may wet the stocks almost to the midst, betwixt the root and the weathring place, and so with gentle handling of it, bow downe into the pit the wood which the grafts haue put forth, and that in as round a compasse as you can, keeping you from breaking of it: afterward lay over the cut, with gummed Ware, or with gravell and sand.

CHAP. II.

Grafting in the Barke.

Grafting in the Barke, is used from mid-August, to the beginning of Winter, and also when the Westerne winde beginneth to blow, being from the 7. of February, unto the 11. of June. But there must care bee had, not to graffe in the barke in any rainy season, because it would wash away the matter of loyming the one and the other together, and so hinder it.

Grafting in the buds, is used in the Summer time, from the end of May, untill August, as being the time when the trees are strong and lusty, and full of sap and leaves. To wit, in a hot Countrey, from the midst of June, unto the midst of July: but cold Countries, to the midst of August, after some small Showres of Raine.

If the Summer be so exceeding dry, as that some trees doe withhold their sap, you must wait the time till it do returne.

Graft from the fall of the Moore, untill the end of the old. You may graft in a Cleft, without having regard to the Raine, for the sap will keepe it off.

You may graft from mid-August, to the beginning of November: Cowes dung with straw both mightily preferres the graft.

It

It is better to graft in the evening, then the morning.

The furniture and tooles of a Grafter, are a Basket to lay his Grafts in, Clay, Gravell, Sand, or strong Earth, to draw over the plants clonen: Posts, Woollen clothes, barks of Willow to layne to the late things & earth be fore spoken, and to keepe them fast: Driers to tye againe upon y barke, to keepe them firme and fast: Gummed Ware, to dresse and couer the ends and tops of the grafts newly cut, that so the raine and cold may not hurt them, neither yet the sap rising from belowe, be constrained to returne againe unto the shootes. A little Sawe or hand-Sawe, to sawe off the stocks of the plants, a little Knife or Pen-knife, to graffe, and to cut and sharpen the grafts, that so the barke may not pill nor be broken; which often cometh to passe when the graft is full of sap. You shall cut the graffe so long, as that it may fill the cleft of the plant, and therewithall it must be left thicker on the barke side, that so it may fill by both the cleft and other incisions, as any need is to be made, which must be alwaies well ground, well burnished without all rust. Two wedges, the one broad for thicke trees, the other narrow for lesse and tender trees, both of them of box, or some other hard and smooth wood, or Steele, or of very hard iron, that so they may need lesse labour in making them sharpe.

A little hand-Bill to set the plants at more libertie, by cutting off superfluous boughs, hel'd of Inoz, Box, or Brazell.

CHAP. III.

Grafting in the cleft.

The manner of grafting in a cleft, to wit, the stock being clow'd, is proper not onely to trees, which are as great as a mans legges or armes, but also to greater. It is true, that in as much as the trees cannot easily be clonen in their stocks, that therefore it is expedient to make incision in some one of their branches, and not in the maine body, as wee see to bee practised in great Apple-trees, & great Pearre-trees, and as we haue already declared heretofore.

To graft in the cleft, you must make choice of a graft that is full of sap and iuyce, but it must not bee, but till from after Januarie untill March: And you must not thus graft in any tree

tree that is already budded, because a great part of the lyes & sap would be already mounted by on high, and risen to the top, and there dispersed and scattered hither and thither, into every spigge and twigge, and be nothing welcome to the graft.

You must likewise be resolved not to gather your graft the day you graft in, but ten or twelve dayes before: for otherwise, if you graft it new gathered, it will not be able easily to incorporate it selfe with the body and stocke, where it shall be grafted; because that some part of it will dry, and by this meanes will be a hinderance in the stocke to the rising up of the sap, which it should communate unto the graft, for the making of it to put forth. And whereas this dried part will fall a crumbling, and breaking thow his rottenesse, it will cause to remaine a concavittie, or hollow place in the stocke, which will be an occasion of a like inconvenience to befall the graft. Moreover, the graft being new and tender, might easily be hurt of the bands, which are of necessity to be tyed about the stocke, to keepe the graft firme and fast. And you must further see, that your plant was not of late remoued, but that it haue already fully taken root.

When you are minded to graft many grafts into one cleft, you must see that they be cut in the end all alike.

So that the grafts be of one length, or not much differing, and it is enough, that they haue three or foure eyles without the twench when the plant is once saved, and lopped of all his small stens and shootes round about, as also implied of all his branches, if it haue many: then you must leane but two at the most, before you come to the cleaning of it: then put to your little saw, or your knife, or other edged tooke that is very sharpe, cleane it quite thow the middlest, in gentle & soft sort: first, tying the stocke very sure, that so it may not cleane further then is need: and then put to your wedges into the cleft, untill such time as you haue set in your grafts, and in cleaning of it, hold the knife with the one hand, and the tree with the other, to helpe to keepe it from cleaning too farre. Afterwards put in your wedge of Bore or Brazill, or bone at the small end, that so you may the better take it out againe, when you haue set in your grafts.

If the stocke be clouen, or the barke loosed too much from the

the wood: then cleane it downe lower, and set your grafts in, and looke that their incision bee fit, and very iustly answerable to the cleft, and that the two saps, first, of the plant and graft, be right and enen set one against the other, and so handsomely fitted, as that there may not be the least appearance of any cut or cleft. For if they doe not thus iumpe one with another, they will neuer take one with another, because they cannot worke their seeming matter, and as it were cartilagenous glue in convenient sort or manner, to the gluing of their ioynts together. You must likewise beware, not to make your cleft overthwart the pitch, but somewhat aside.

The barke of your plant being thicker then that of your graft, you must set the graft so much the more outwardly in the cleft, that so the two saps may in any case bee ioyned, and set right the one with the other: but the rinde of the plant must be somewhat more out, then that of the grafts on the clouen side.

To the end that you may not faile of this worke of iumping, you must principally take heed, not to over cleane the stockes of your trees. But before you widen the cleft of your wedges, binde, and goe about the stocke with two or three turnes, and that with an Ozier, close drawn together, vnderneath the same place, where you would haue your cleft to end, that so your stocke cleane not too farre, which is a very vsuall cause of the miscarrying of grafts, inasmuch as hereby the cleft standeth so wide and open, as that it cannot be shut, and so not grow together againe; but in the meane time spendeth it selfe, & breatheth out all his life in that place, which is the cause that the stocke and the graft are both spilt. And this falleth out most often in Plum-trees, and branches of trees. You must be careful so to ioyne the rinds of your grafts, and plants, that nothing may continue open, to the end that the wind, moisture of the clay or kaine, running vpon the grafted place, do not get in: when the plant cleaueth very straight, there is not any danger nor hardnesse in sloping downe the graft. If you leane it somewhat vneuen, or rough in some places, so that the saps both of the one and of the other may the better grow, and be glued together, when your grafts are once well ioyned to your plants, draw out your wedges very softly, lest you dis-

place them againe, you may leane there within the cleft some small end of a wedge of greene wood, cutting it very close with the head of the Stocke: Some cast glue into the cleft, some Sugar, and some gummed Ware.

11. If the Stocke of the Plant whereupon you intend to graft, be not so thicke as your graft, you shall graft it after the fashion of a Goates foot, make a cleft in the Stocke of the Plant, not direct, but byas, and that smooth and euen, not rough: then apply and make fast thereto, the graft withall his Bark on, and answearing to the barke of the Plant. This being done, couer the place with the fat earth and masse of the Woods tyed together with a strong band: sticke a pole of Wood by it, to keepe it stedfast.

CHAP. IIII.

Grafting like a Scutcheon.

12. In grafting after the manner of a Scutcheon, you shall not vary nor differ much from that of the Flute or Pipe, save onely that the Scutcheon-like graft, having one eyellet, as the other hath yet the wood of the tree whereupon the Scutcheon-like graft is grafted, hath not any knob, or budde, as the wood whereupon the graft is grafted, after the manner of a pipe.

In Summer when the trees are well replenished with sap, and that their new Stems begin to grow some-what hard, you shall take a shoot at the end of the chiefe branches of some noble and reclaimed tree, whereof you would faine haue some fruit, and not many of his old stozz or wood, and from thence raise a good eyellet, the tayle and all thereof to make your graft. But when you choose, take the thickest, and grossest, diuide the tayle in the middell, befoze you doe any thing else, casting away the lease (if it be not a Pearre-plum-tree: soz that would haue two or thyeze leanes) without remouing any moze of the said tayle: afterward with the point of a sharpe knife, cut off the Barke of the said shoot, the patterne of a shield, of the length of a naple.

13. In which there is onely one eyellet higher then the middell together, with the residue of the tayle which you left behinde: and soz the lifting vp of the said graft in Scutcheon, after that you haue cut the barke of the shoot round about, without cutting

king of the wood within, you must take it gently with your thumbe, & in putting it away you must presse vpon the wood from which you pull it, that so you may bring the bud and all away together with the Scutcheon: soz if you leaue it behinde with the wood, then were the Scutcheon nothing woorth. You shall finde out if the Scutcheon be nothing woorth, if looking within when it is pulled away from the wood of the same fate, you finde it to haue a hole within, but moze manifestly, if the bud doe stay behind in the Wood, which ought to haue been in the Scutcheon.

14. Thus your Scutcheon being well raised and taken off, hold it a little by the tayle betwixt your lips, without wetting of it, euen untill you haue cut the Barke of the tree where you would graft it, and looke that it be cut without any wounding of the wood within, after the manner of a crutch, but somewhat longer then the Scutcheon & you haue to set in it, and in no place cutting the wood within; after you haue made incision, you must open it, and make it gape wide on both sides, but in all manner of gentle handling, and that with little Sizers of bone, and separating the wood and the barke a little within, euen so much as your Scutcheon is in length and breadth: you must take heed that in doing heresof, you doe not hurt the Barke.

15. This done, take your Scutcheon by the end, and your tayle which you haue left remaining, and put into your incision made in your tree, lifting vp softly your two sides of the incision with your said Sizers of bone, and cause the said Scutcheon to lye, and lye as close as may be, with the wood of the tree, being cut, as aforesaid, in waying a little vpon the end of your rinne: so cut and let the vpper part of your Scutcheon lye close vnto the vpper end of your incision, or barke of your said tree: afterward binde your Scutcheon about with a band of Hempe, as thicke as a pen of a quill, moze or lesse, according as your tree is small or great, taking the same Hempe in the middell, to the end that either part of it may perfoyme a like seruice; and weathring and binding of the said Scutcheon into the incision of the Tree, and it must not be tyed too strait, soz that would keepe it from taking the topning of the one sap to the other, beeing hindered thereby. and neither the Scutcheon,

cheon, no^r yet the Vempe must be moist, o^r wet: and the moze
tully to binde them together, begin at the backe side of the
Tree, right ouer against the middelt of the incision, and from
thence come so^rward to ioyne them befoze, about the eylet and
taylor of the Scutcheon, crossing your band of Vempe, so oft as
the two ends meet, and from hence returning backe againe,
come about and tie it likewise underneath the eylets: and thus
cast about your band still backward and so^rward, untill the
whole cleft of the incision bee covered above and below with
the said Vempe, the eylet onely excepted, and his taile which
must not be covered at all; his taylor will fall away one part
after another, and that shortly after the ingrafting, if so bee
that the Scutcheon will take. Leave your trees and Scutche-
ons thus bound, fo^r the space of one moneth, and the thicker,
a great deale longer time. Afterward looke them over, and if
you perceiue the to grow together, untie them, o^r at the least-
wise cut the Vempe behinde them, and leaue them vncouered.
Cut also your branch two o^r three fingers above that, so the
impe may prosper the better: and thus let them remaine till
after Winter, about the moneth of March, and April.

If you perceiue that your bud of your Scutcheon do swell
and come so^rward: then cut off the tree three fingers o^r there-
abouts, above the Scutcheon: fo^r if it bee cut off too neere
the Scutcheon, at such time as it putteth fo^rth his first bluf-
some, it would be a means greatly to hinder the slowping of it,
and cause also that it should not thriue and prosper so well af-
ter that one yeere is past, and that the shoothe beginneth to bee
strong: beginning to put fo^rth the second bud and blossome,
you must goe so^rward to cut off in byas-wise the three fingers
in the top of the tree, which you left there, when you cut it in
the yeere going befoze, as hath been said.

When your shoothe shall haue put fo^rth a great deale of
length, you must sticke downe there, even hard topped
thereunto, little stakes, tying them together very gently and
easily; and these shall stay your shoothes and prop them vp, let-
ting the winde from doing any harme vnto them. Thus you
may graft white Roses in red, and red in white. Thus you
may graft two o^r three scutcheons: provided that they bee all
of one side: fo^r they will not be set equally together in height,
because

because then they would bee all stamplings, neither would
they be directly one ouer another; fo^r the lower would stay the
rising vp of the sap of the tree, and so those above should con-
sume in penurie, and vndergoe the aforesaid inconuenience.
You must note, that the scutcheon which is gathered from
the slien of a tree whose fruite is some, must be cut in square
forme, and not in the plaine fashion of a scutcheon. It is o^r-
dinarie to graffe the sweet Quince tree, bassard Peach tree,
Appicock tree, Zulube tree, some Cherry tree, sweet cherry
tree, & Chestnut tree, after this fashion, howbeit they might
be grafted in the cleft moze easily, & moze profitably; although
diuers be of contrary opinion, as thus best: Take the grafts
of sweet Quince tree, and bassard Peach tree, of the fairest
wood, and best sed that you can finde, growing vpon the wood
of two yeeres old, because the wood is not so firme no^r solid
as the others: and you shall graffe them vpon small Plum tree
stocks, being of the thicknesse of ones thumbe; these you shall
cut after the fashion of a Goates foot: you shall not goe about
to make the cleft of any moze sides then one, being about a
foote high from the ground; you must open it with your small
wedge: and being thus grafted, it will seeme to you that it
is open but of one side; afterward you shall wrap it vp with a
little Masse, putting thereto some gummed Wax, o^r clay, and
binde it vp with Wiers to keepe it surer, because the stocke
is not strong enough it selfe to hold it, and you shall furnish
it euery manner of way as others are dealt withall: this is
most profitable.

The time of grafting.

All moneths are good to graft in, (the moneth of October
and Nouember onely excepted) But commonly, graft at that
time of the winter, when sap beginneth to arise.

In a cold Countrey graft later, and in a warme countrey
earlier.

The best time generall is from the first of February, untill
the first of May.

The grafts must alwayes bee gathered, in the old of the
spoone.

For grafts, choose shoothes of a yeere old, o^r at the further-
most two yeeres old.

If you must carry grafts farre, picke them into a Turney newly gathered, or lay earth about the ends.

If you set Stones of Plummes, Almonds, Nuts, or Peaches: First let them lye a little in the Sunne, and then sleepe them in Milke or Water, three or foure dayes before you put them into the earth.

Dye the kernels of Pippins, and sow them in the end of Nouember.

The Stone of a Plum-tree must be set a foot deepe in Nouember, or February.

The Date Stone must be set the great end downwards, two cubits deepe in the earth, in a place enriched with dung.

The Peach Stone would be set presently after the Fruit is eaten, some quantitie of the flesh of the Peach remaining about the Stone.

If you will haue it to be excellent, graft it afterward vpon an Almond tree.

The little Stems of Cherry-trees, grown thick with haire, rats, and those also which doe grow by from the rootes of the great Cherry-trees, being remoued, doe grow better and sooner then they which come of Stones: but they must bee remoued and planted while they are but two or three yeeres old, the branches must be lopped.

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THE
HUSBAND-MANS
FRUITFULL ORCHARD.

For the true ordering of all sorts of fruits in their due seasons; and how double increase commeth by care in gathering yeere after yeere: as also the best way of carriage by Land or by Water: With their prescription for longest continuance.



If all Stone Fruit, Cherries are the first to be gathered: of which, though we reckon foure sorts; English, Flemish, Gasconne & Black, yet are they reduced to two, the early, and the ordinarie: the early are those whose grafts came first from France and Flanders, and are now ripe with vs in May: the ordinarie is our owne naturall Cherry, and is not ripe before June; they must be carefully kept from Birds, either with nets, noise, or other industry.

They are not all ripe at once, nor may be gathered at once, therefore with a light Ladder, made to stand of it selfe, without hurting the boughes, mount to the tree, and with a gathering booke, gather those which be full ripe, and put them into your Cherry-pot, or laybze hanging by your side, or vpon any bough you please, and be sure to breake no stalk, but that the cherry hangs by; and pull them gently, lay them downe tenderly, and handle them as little as you can.

For the conueyance or postage of Cherries, they are best To carry to be carried in broad Baskets like Bines, with smooth peeling-Cherries.

ding bottomes, onely two broad Laths going along the bottome: and if you doe transport them by Ship, or Boat, let not the Sides be fill'd to the top, lest setting one upon another, you bruise and hurt the Cherries. If you carry by backe, then Panniers well lined with Earne, and packt full and close is the best and safest way.

Other stone fruit. Now for gathering of all other stone-fruit, as Pertarines, Apricocks, Peaches, Pearre-plummes, Damsons, Bullas, and such like, although in their severall kindes, they seeme not to be ripe at once on one tree: yet when any is ready to drop from the tree, though the other seeme hard, yet they may also be gathered, for they have received the full substance the tree can give them; and therefore the day being faire, and the dew drawne away; set up your Ladder, and as you gathered your Cherries, so gather them: onely in the bottomes of your large Sides, where you part them, you shall lay Nettles, and likewise in the top, for that will helpe to ripen those that are most unready.

Gathering of Peares. In gathering Peares, are three things observed; to gather for expence, for transportation, or to sell to the Apothecarie. If for expence, and your owne use, then gather them as soone as they change, and are as it were halfe ripe, and no more but those which are changed, letting the rest hang till they change also: for thus they will ripen kindly, and not rot so soone, as if they were full ripe at the gathering. But if your Peares be to be transported farre either by Land or Water, then pull one from the tree, and cut it in the middlest, and if you finde it hollow about the choare, and the kernell a large space to lye in: although no Pearre be ready to drop from the tree, yet then they may be gathered, & then laying them on a heape one upon another, as of necessity they must be for transportation, they will ripen of themselves, and eate kindly: but gathered before, they will wither, shrink and eate rough, losing not onely their taste, but beauty. Now for the manner of gathering; albeit some climbe into the trees by the boughes, and some by Ladder, yet both is amisse: the best way is with the Ladder before spoken of, which standeth of it selfe, and with a basket and a line, which being full, you must gently let down, and keeping the String still in your hand, being emptied, draw it up againe,

againe, and so finish your labour, without troubling your selfe, or hurting the tree.

Now touching the gathering of Apples, it is to be done according to the ripening of the fruit; your Summer Apples first, and the winter after. For Summer Fruits, when it is ripe, some will drop from the tree, and birds will bee picking at them: But if you cut one of the greenest, and finde it as was shew'd you before of the Pearre: then you may gather them, and in the house they will come to their ripenesse and perfection. For your Winter fruit, you shall know the ripenesse by the observation before shew'd; but it must be gathered in a faire, Sunny, and dry day, in the wayne of the Moone, and no winde in the East, also after the dew is gone away: for the least wet or moisture will make them subject to rot and mill-dew: also you must have an apron to gather in, and to empty into the great baskets, and a hook to draw the boughs unto you, which you cannot reach with your hands at ease: the apron is to be an ell every way, loopt up to your girdle, so as it may serve for either hand without any trouble: and when it is full, unloose one of your loopes, and empty it gently into the great Basket, for in throwing them downe roughly, their owne stalkes may picke them; and those which are pickt, will ever rot. Again, you must gather your fruit cleane without Leaves or Bunts, because the one hurts the tree, for every bunt would be a stake for fruit to grow upon: the other hurts the fruit by bruising, and picking it as it is laid together, and there is nothing sooner rotteth fruit, then the greene and withered leaves lying amongst them; neither must you gather them without any stake at all: for such fruit will begin to rot where the stake stood.

For such fruit as falleth from the trees, and are not gathered, they must not be laid with the gathered fruit: and of fallings there are two sorts: one that falls through ripenesse, and they are best, and may be kept to bake or roast: the other wind-falls, and before they are ripe; and they must bee spent as they are gathered, or else they will wither and come to nothing: and therefore it is not good by any meanes to beat downe fruit with Boales, or to carry them in Carts loose and logging, or in sacks where they may be bruised.

Gathering of Apples.

To use the fallings.

When

Carriage of
fruit.

When your fruit is gathered, you shall lay them in deepe Baskets of Wicker, which will containe foure or five bushels, and so betweene two men carry them to your Apple Loft, and in dropping or laying them downe, be very carefull that it bee done with all gentlenesse, and leisure, laying euery sort of fruit severall by it selfe: but if there be want of roome, hauing so many sorts that you cannot lay them severally, then such some fruit as is neere in taste and colour, and of winter fruit, such as will taste alike, may, if need require, be layd together, and in time you may separate them, as shall bee shewed hereafter. But if your fruit bee gathered faire from your Apple Loft, then must the bottomes of your Baskets be lined with greene Ferne, and vnder the Cubbozns ends of the same throughe the Basket, that none but the soft leafe may touch the fruit, and likewise couer the tops of the baskets with Ferne also, and vnder small cord ouer it, that the Ferne may not fall away, nor the fruit scatter out, or lodge vp and downe: and thus you may carry fruit by Land or by Water, by Boat, or Cart, as farre as you please: and the Ferne both not onely keepe them from bruising, but also ripens them, especially Peares. When your fruit is brought to your Apple Loft or Store-house, if you finde them not ripened enough, then lay them in thicker heapes vpon Ferne, and couer them with Ferne also: and when they are neere ripe, then uncover them, and make the heapes thinner, so as the ayre may passe throughto them: and if you will not hasten the ripening of them, then lay them on the bare boords without any Ferne at all. Now for Winter, or long lasting Peares, they may be packt either in Ferne or Straw, and carried whither you please; and being come to the Iourneys end, must be laid vpon sweet Straw; but beware the roome bee not too warme, nor windie, and too cold, for both are hurtfull: but in a temperate place, where they may haue ayre, but not too much.

Of War-
dens.

Of Medlers.

Wardens are to be gathered, carried, packt, & laid as winter Peares are.

Medlers are to be gathered about Michaelmas, after a frost hath toucht them; at which time they are in their full growth, and will then be dropping from the tree, but neuer ripe vpon the

the tree. When they are gathered, they must be layd in a basket, fine, barrell, or any such cask, & wapt about with twofold cloathes, vnder, ouer, and on all sides; and also some weight laid vpon them, with a boord betweene: for except they bee brought into a heate, they will neuer ripen kindly or taste well. Now when they haue layne till you thinke some of them bee ripe, the ripest, still as they ripen, must be taken from the rest: therfore putte them out into another fine or basket leasurely, that so you may well finde them that be ripest, letting the hard one fall into the other basket, and those which bee ripe laid aside: the other that be halfe ripe, leuer also into a third fine or basket: for if the ripe, and halfe ripe be kept together, the one will be mouldy, before the other be ripe: and thus doe, till all be thoroughly ripe.

Quinces should not bee laid with other fruite; for the sent is offensive both to other fruite, and to those that keepe the fruit or come amongst them: therfore lay them by themselves vpon sweet Straw, where they may haue ayre enough: they must be packt like Medlers, and gathered with Medlers.

Apples must be packt in Wheate or Rye Straw, & in mounds or baskets lined with the same, and being gently handled, will ripen with such packing and lying together. If severall sorts of apples be packt in one mound or basket, then betweene euery sort, lay sweet Straw of a pretty thickness.

Apples must not be putted out, but with care and leasure: first, the Straw pickt cleane from them, and then gently take out euery severall sort, and place them by themselves: but if for want of roome you must mixe the sorts together, then lay those together that are of equall lasting; but if they haue all one taste, then they need no separation. Apples that are not of like colours should not be laid together, and if any such bee mingled, let it be amended, and those which are first ripe, let them be first spent; and to that end, lay those apples together, that are of one time of ripening: and thus you must be Pippins also, yet will they indure bruises better then other fruite, and whilst they are greene will heale one another.

Pippins, though they growe of one tree, and in one ground, Difference yet some will last better then other some, and some will bee in Fruit, bigger then others of the same kinde, according as they haue

have more of both of the sun, or more or lesse of the droppings of the trees or upper branches: therefore let every one make most of that fruit which is thickest, & longest lasting. Again, the largenesse & goodness of fruit consisteth in 3 age of the tree: for as the tree increaseth, so the fruit increaseth in bignesse, beauty, taste and firmnes: & otherwaile, as it decreaseth.

Transporting fruit by water.

If you be to transport your fruite safe by water, then provide some dry hoggs-heads or barrels, and packe in your apples; one by one with your hands, that no empty place may be left, to occasion rotting; and you must line your vessel at both ends with fine sweet straw: but not the sides, to avoid heate: and you must boze a dozen holes at either end, to receive ayre so much the better: and by no means let them take wet. Some vse, that transport beyond seas, to stee the fruite under hatches upon straw: but it is not so good, if caske may be gotten.

When not to transport fruite.

It is not good to transport fruite in March, when the wind bloweth bitterly, nor in frosty weather, neither in the extreme heate of Summer.

To convey small store off fruite.

If the quantitie be small you would carry, then you may carry them in Dollers or Bannets, provided they be ever filled close, and that Cherries and Peares be lined with greene Paper, and Apples with sweet straw: and that, but at the bottomes and tops, not on the sides.

Roomes for fruit.

Winter fruite must lye neither too hot, nor too cold; too close, nor too open: for all are offensive. A better roome or Celler that is sweet, and either boarded or paved, and not too close, is good, from Christmas till March: and roomes that are fild with straw, and from the ground, are good from March till May: then the Celler againe, from May till Michaelmas. The apple best would be seled or boarded, which if it want, then take the longest type straw, and raise it against 3 walls, to make a fence as high as the fruite lieth: & let it be no thicker then to keepe the fruite from the wall, which being moyst, may doe hurt, or if not moyst, then the dust is offensive.

Sorting of fruit.

There are some fruit which will last but untill All-hallow-tide: they must be sold by themselves; then those which will last till Christmas, by themselves: then those which will last till Candlemas, by themselves: those which will last till Shrove-tide

Shrove-tide, by themselves: & Pippins, Apple-Johns, Peares, maines, and winter-Russetings, which will last all the yeere, by themselves.

Now if you spy any rotten fruit in your heapes, pick them out, and with a Trey for the purpose, see you turne the heapes over, and leane not a tainted Apple in them, dividing the hardest by themselves, and the broken skinned by themselves to be first spent, and the rotten ones to be cast away; and ever as you turne them, and picke them, under-lay them with fresh straw: thus shall you keepe them safe for your vse, which otherwise would rot suddenly.

Pippins, John-Apples, Peares-maines, and such like long-lasting fruit, need not bee turned till the weeke before Christ stirring mas, unless they be mixt with other of a riper kind, or that the fruit fallings be also with them, or much of the first straw left amongst them: the next time of turning is at Shrove-tide, and after that, once a moneth till Whitsun-tide; and after that, once a fortnight; and ever in the turning, lay your heapes lower and lower, and your straw very thinne: provided you doe none of this labour in any great frost, except it bee in a close Celler. At every thawe, all fruit is moist, and then they must not be touched; neither in rainy weather, for then they will be ranke also: and therefore at such seasons it is good to set open your windowes, and doores, that the ayre may have free passage to dry them, as at nine of the clocke in the fore-noone, and foure in the afternoone in Winter; and at five in the fore-noone, and at eight at night in Summer: onely in March, open not your windowes at all.

All lasting fruit, after the middest of May, begin to wither, because then they waxe dry, and the moisture gone, which made them looke plump: they must needs wither, and bee smaller; and nature decaying, they must needs rot. And thus much touching the ordering of fruits.

FINIS.

The Booke of Bees, called the feminine Monarchy, written heretofore by M^r. Charles Butler, and now so much desired, shall shortly be set forth againe, corrected and augmented by the Authors further experience.